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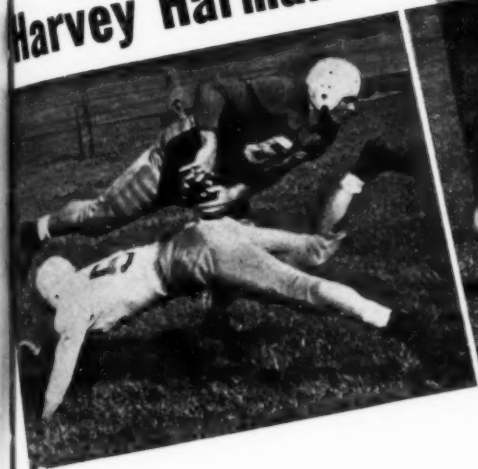
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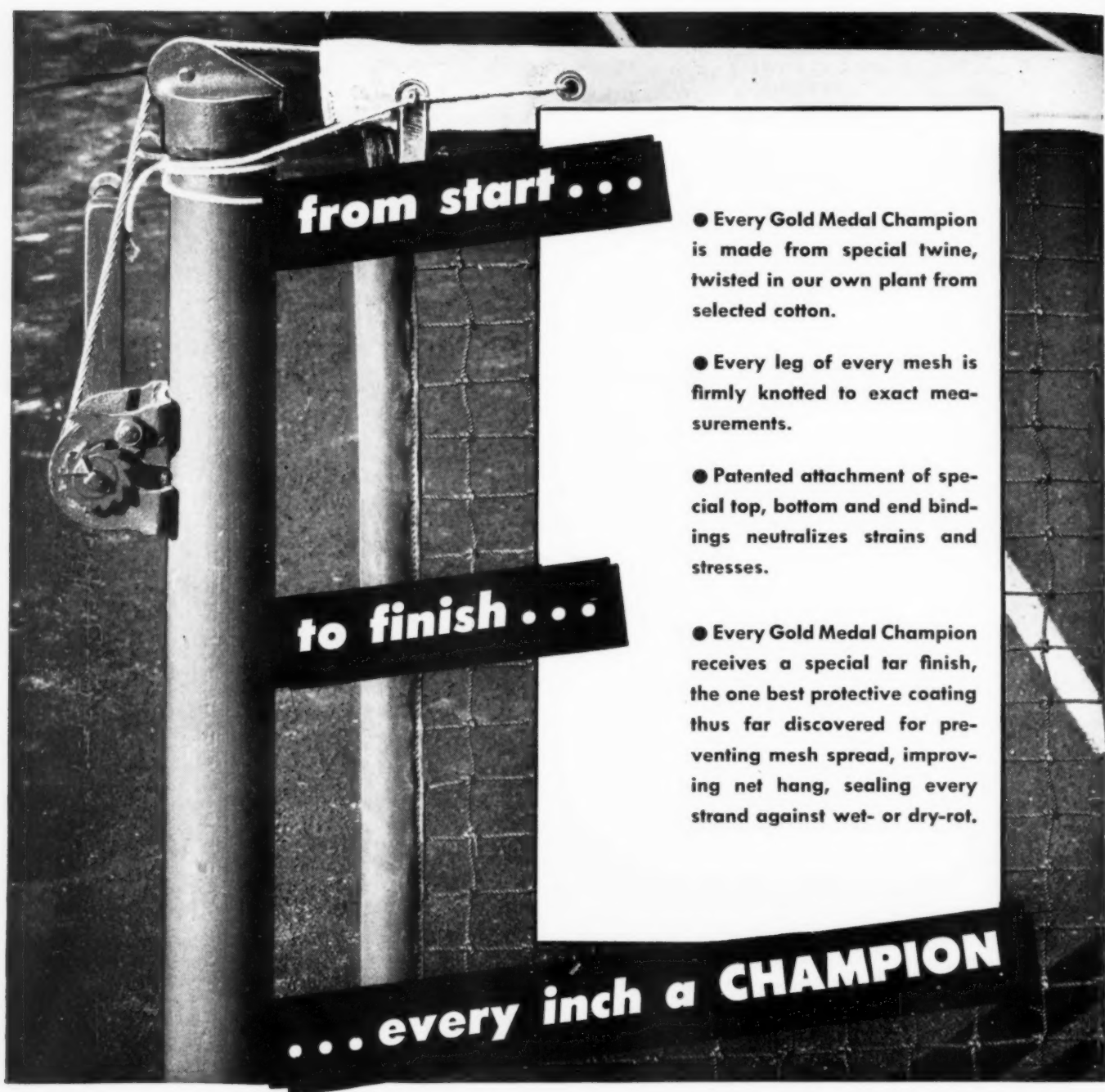
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Notre Dame's Quick
Opener by Frank Leahy



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SCHOLASTIC COACH

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VOLUME 18 • NUMBER 10 • JUNE

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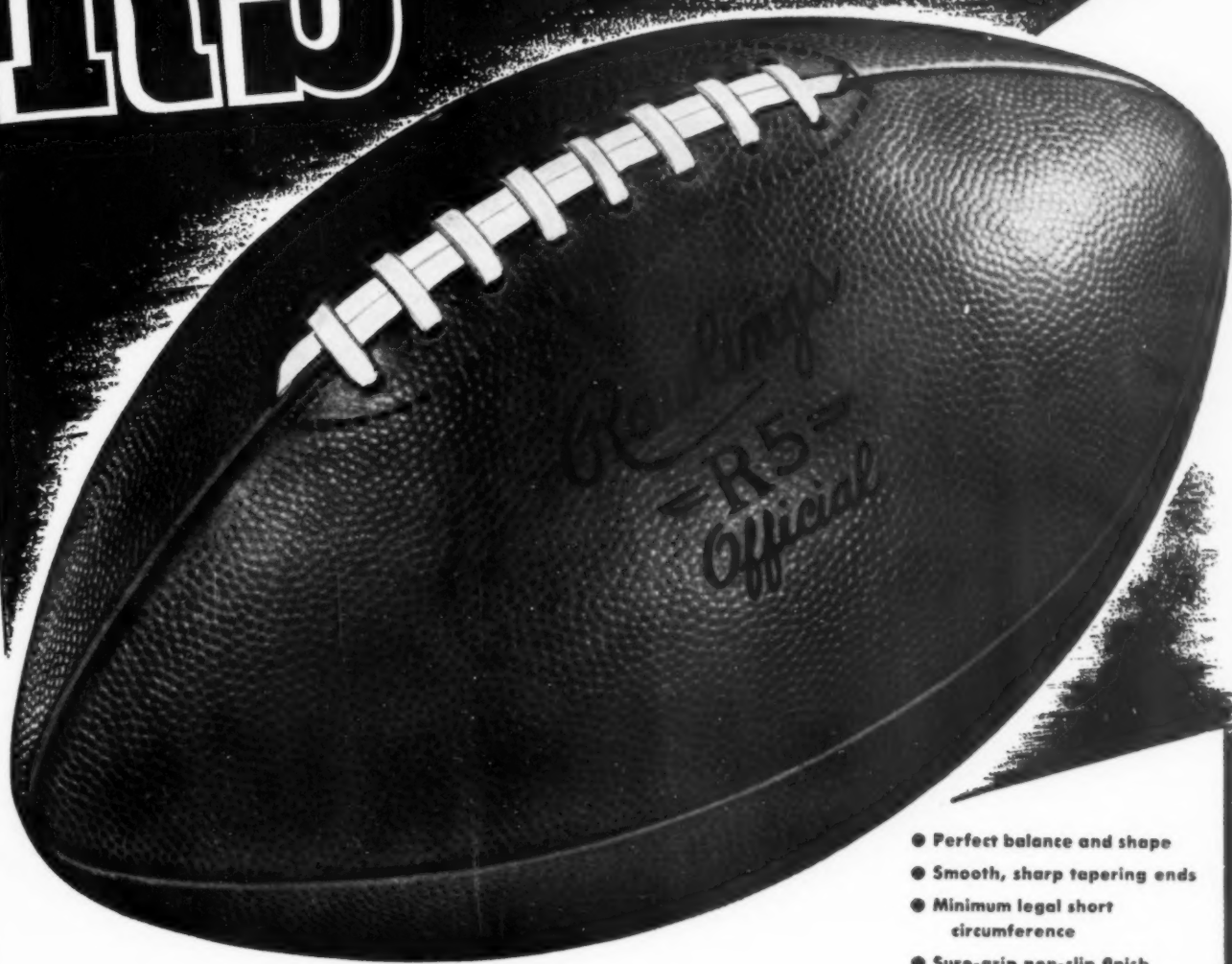
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For dear old Rutgers

THE morticians on the banks of the old Raritan are crying in their embalming fluid these days. Business is terrible. It seems that nobody is dying for dear old Rutgers anymore.

The man to blame for this business recession is Harvey Harman. Ever since Harvey docked at New Brunswick, the Rutgers gridders no longer have to commit suicide in order to win a game.

The Scarlet elevens have become surprisingly puissant. They seldom lose more than a game or two a season, and if Harvey doesn't keep his tail down he may yet be nailed with one of those coach-of-the-year kudos.

Harvey is one of those unregenerate bassos profundo who learned the facts of life playing tackle for Pop Warner. He must have learned his lessons well, for his lines have come to be distinguished for their man-mangling demeanor.

Having always been impressed with the Harman style of line play, we decided to take a peek at it through our magic-eye camera. After giving Mr. Harman full warning, we descended upon him last month armed with a photographer and a ton or so of motion picture film.

HARVEY turned out to be a boulder-shaped gentleman well over six feet, who practically surrounded us with his bulk. Envisioning one of those shoulders plowing into an exposed rib, made us shiver. But Harvey didn't make a move at us. He stayed up in a two-point stance and proved as courteous and charming as a Republican stumping for votes in Alabama.

Before permitting us to set foot in his stadium, he insisted that we take a look at the Rutgers' athletic plant. "It's the finest plant in the world," he vouchsafed. "We have eleven fields and a golf course."

So we stepped back into our baroque '36 Chevy and prowled around the perimeter of the eleven

fields and golf course. Harvey's pride proved entirely justifiable. A cursory inspection showed that the Rutgers' plant is big enough and lush enough to raise buffalo on.

Upon returning to the stadium, we found Harvey lying full length on the five-yard line. Our first thought was that he had been hit by a copy of the Sanity Code. But Harvey quickly dispelled our fears. He looked up and smiled happily. "Look," he said, "I just found two four-leaf clovers!" We congratulated him on the success of his safari, and then went to work.

Harvey, the soul of cooperation, had four of his tigers in brand new uniforms waiting for us. Everything we asked them to do, and we asked plenty—17 individual offensive and defensive line stunts—the boys did. Not with any sang-froid, either. They tore into each other with the playfulness of starved jaguars.

Harvey and his line coach, Al Sabo, watched them with hawk-like intensity, criticizing their form and calling for retakes whenever necessary. Nothing escaped these two human lie detectors. Time and again they nailed some felony and had the boys repeat the stunt. Both being perfectionists, they kept shaking their heads sadly. To our semi-professional eyes, however, the boys looked perfectly wonderful.

An hour later, the boys, a little worse for wear, were excused from the field and we followed shortly after. Just before leaving the field, we noticed an enormously muscled giant snaking over the high hurdles in surprisingly good form.

"That's Bucky Hatchett," beamed Harvey. Bucky is the great Rutgers' all-around athlete specializing in football, basketball, and track. So we unpacked our camera and had Bucky run some hurdles for our photographer.

Bucky tore over them as though fleeing a calculus quiz.

The track coach was delighted. "Haven't seen him run so hard since he came out for track," he told us.

A WEEK or so later we returned to Rutgers to give Harvey a look at the developed pictures. Harvey and his delightful wife picked us up at the station and insisted on feeding us before getting down to business.

We wound up at a Kiwanis luncheon, sandwiched between Harvey and the mayor of New Brunswick. We helped salute the flag and sing two verses of *America*, then pitched vigorously into the victuals.

After the food and the business part of the meeting had been dispensed with, the president of the club introduced the entertainment. "Our own quartet will now sing a few songs," he announced, a bit defensively we thought.

At least a dozen members immediately got to their feet, including Harvey. "Hey," he roared, "you can't walk out before hearing us sing at least one number. We're not that bad!"

That was our first inkling that Harvey was on the program. His fears about everybody walking out proved groundless. The boys were just turning their chairs around to get a better view of the quartet.

The quartet did nothing that could be construed as a death blow to music. With Harvey towering above the others like a Newfoundland dog among poodles, they sang two numbers which sounded vaguely familiar but which we never quite could identify. Harvey did rather nicely, lending an harmonic touch which clearly indicated a lot of practice in football shower rooms.

His low notes were especially distinctive, his D's hitting lower than a submarining guard.

We congratulated him warmly after he returned to his seat, but Harvey shook it off. "Weren't we lousy?" he grinned. "I never heard so many bad notes in my life." He paused for a moment, then added wistfully, "We had an encore all rehearsed but nobody asked for one." We didn't have to tell him why.

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Notre Dame's Quick Opener

BY *Frank Leahy*



THE "T" Formation is based on the element of surprise, and to my way of thinking there is no better way to capitalize on this element than to have an operation completed before the enemy realizes what is happening.

This is what play number "43" does for us. It is the most basic play and the most used play in our attack. I sincerely believe that the reason many coaches are not having success with the "T" is that they look upon this play as being too elementary to waste time on.

At Notre Dame, however, we believe that in order for any other plays to work successfully from this formation, it is absolutely essential that the opponent always be tensed to expect a quick-opener. If you have them in this frame of mind, you will find it much easier to make them go after a good fake.

We like to have our quarterbacks run "43" and its opposite, "22", many times during the course of every game, because after the first period the enemy tends to relax a bit, and it is at this time that our halfbacks can break into the clear.

We have a set pattern for our halfback to follow once he gets through the line. Naturally, circumstances may cause him to deviate from this plan, but we ask our ball-carrier, if possible, to go through the line for approximately five yards and then cut in the direction away from the hole side of the line.

That is, on a "43" the halfback cuts to his left, and on a "22" he cuts to his right. This permits the offside

end and tackle to get downfield ahead of the ball, and lend some assistance with the enemy backfield men.

Play "43", as mentioned earlier, means the No. 4 back through the No. 3 hole. This play may be run with either the left halfback or the fullback in motion or out on a flanker, or the quarterback may choose to spread an end just to disconcert the men across the line.

The success of this play depends mainly on the timing employed by the quarterback and the ball-carrier. It works so fast that they must meet perfectly in order to avoid a fumble. Work on this exchange in practice until your men can perform it without the slightest hesitation.

Assignments for the Quick-Opener: **Diag. 1** shows both "43" and "22" against a normal six-man line.

Since this defense is the one we most commonly face, we have devised two methods of combating it, with the best method being decided upon at the line of scrimmage by the on-side tackle. Many times the linebacker will move just as the quarterback

starts to call "Down," and it is then that the tackle may decide which of our two plans will work most advantageously.

As can be seen in the diagram, we have the defensive tackles lined up on the head of our ends; that is, directly opposite our flanker man. When "43" is called and the right tackle sees this setup at the line of scrimmage, he usually feels that our right end has a more advantageous blocking angle on the opposing tackle than he has.

Thus, he would call a blocking assignment that would send the end directly at the tackle while he would go through and block the on-side linebacker away from the hole.

We shall now outline the assignments exactly as we give them to our squad members every time we diagram a play for them. We go from end to end and then through the entire backfield.

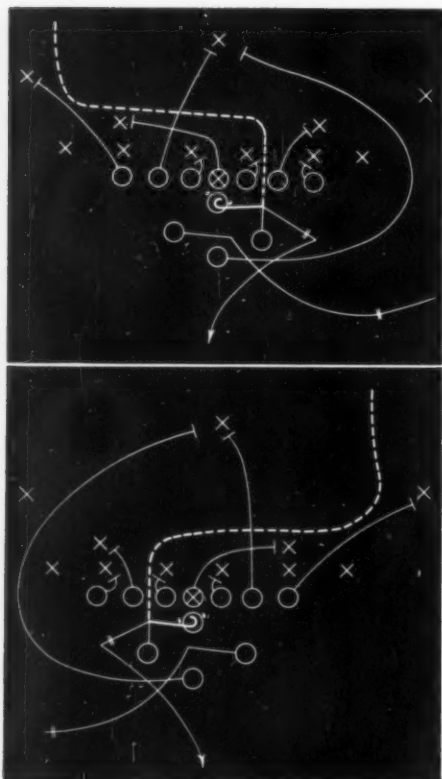
We call upon the *right end* to shoulder block the defensive left tackle toward the sidelines. He should keep driving him out until he is certain that the halfback is through the hole and down the field. When this duty is performed, he must head downfield to see if he can do some constructive blocking.

Our *right tackle* must spring out toward the linebacker. We ask him to head as if he were going past the man to get the halfback, and then cut back fast and bury his shoulder deep into the opponent's midsection. Our tackle continues to block the man until he is absolutely certain he can be of no harm to the play.

The *right guard* must get a fast charge at the man on his head and drive him away from the hole. He should be careful not to let the man pivot away from him or he may close the hole. This defender is the closest man to the hole, and we want him to have to go across the line in order to get away from our guard's blocking.

The *center* starts to sprint as soon as the ball leaves his hands. He sprints

THIS superb analysis of the T's bread-and-butter play is reprinted from Frank Leahy's new book, "Notre Dame Football: The T Formation," by permission of the publishers, Prentice-Hall, Inc. Copyright 1949 by Prentice-Hall, Inc. For a review of this splendidly detailed coaching text (\$2.25), refer to page 46 of last month's Scholastic Coach.



Diag. 1: Play 43 (top) and 22 (bottom) against a normal six-man line.

through the line until he is a bit deeper than the offside linebacker. As that man starts to move over into the play, our pivot man blocks him back toward the line of scrimmage. The play is coming in his direction, so the center must make certain this man is kept out of the play long enough to allow the halfback to be on his way.

Our left guard blocks the defensive guard away from the hole. We ask him to stay with the opponent for three full counts before releasing his block and heading downfield in the general direction of the ball-carrier, looking for anyone wearing the wrong colored shirt.

The left tackle is a downfield blocker. But he must not arrive there too soon or he will not be able to keep the safety man occupied long enough for the halfback to get free. He should wait until the man with the ball catches up with him and then place himself between the ball-carrier and the opponent. The block should never be made until the enemy is right next to him because a full body block is most effective on the important man. We tell our blockers that if they will stay with the ball-carrier the potential tacklers will come to them.

The left end employs the same tactics as the left tackle. His man is the defensive right halfback, and he should never allow that man to get near the No. 4 back.

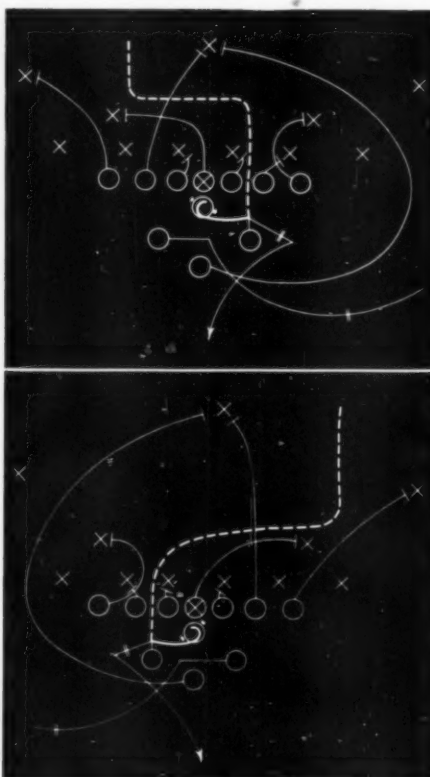
The position of the quarterback's feet is designated by the little dots on the diagram. Many coaches think this is a tipoff as to the direction of the play, so we often vary it with the play. Upon receiving the ball from the center, the quarterback executes a reverse pivot and feeds the ball to the

right halfback. As soon as the ball-carrier is away, the quarterback keeps his hands in close to his stomach while he takes two steps out toward the opponent's goal line. The two little lines indicate a fake pitchout that he makes to the left halfback. After faking very hard to that back, he then fades back and throws a fake pass. All this time he has his back at least partially to the line of scrimmage so the opponent cannot see what is going on. This is absolutely necessary if the ball-carrier is to get through the hole before the play is diagnosed.

The left halfback steps off with his left foot and then cuts on a 90° angle to his right. He sprints over until he is behind the center and then starts to "belly" back. When the quarterback fakes the pitchout, the No. 2 back must fake right with him in order to confuse the enemy. Note the two little lines crossing his path. We spend as much time as possible on good faking.

The right halfback must start like a shot out of a cannon. As the play begins to unfold, he eyes the quarterback with split-vision until he is ready to receive the ball. He then looks down and follows it right into the pocket. We tell our ball-carriers to grasp the ball, seize it, tuck it away, and move it downfield. Once he has the ball in his possession, he bolts through the line for about five yards before cutting to his left, where he picks up his blockers.

Our fullback must "fly" out to the sidelines, keeping a constant watch to see just who, if anyone, follows him. He should do this with an eye toward what play, similar to "43," would work if he were to go out there all alone.



Diag. 2: Against normal six with defensive tackle playing in the gap.

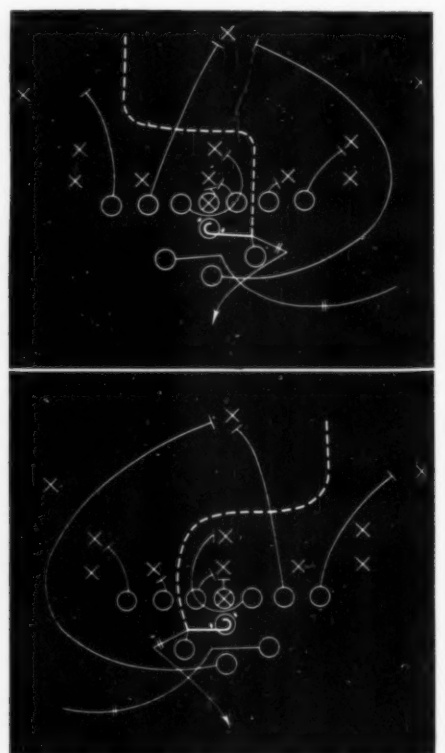
"22" Against a Normal Six-Man Line: The opposite of "43," which is "22," is always taught at the same time. In the diagram for the latter play, you will notice that we use the identical set-up, except that we have the left tackle call the blocking assignments, and it is his duty to sprint through the line to block the outside linebacker.

The quarterback's feet are in exactly the opposite position, and he does a reverse pivot to his right, coming around and feeding his left halfback just about two yards behind the line of scrimmage. It was on this simple "22" that Bob Livingstone shook loose to run 92 yards against U.S.C. at the close of our 1947 season.

Quick-Opener Against a Tightened Six-Man Line: Diag. 2 outlines the very same play against the same kind of defense, except that it is pulled in a little tighter, which brings the defensive tackle into the slot between our right end and tackle. When the enemy makes this change after our tackle has already called the blocking assignments, all that is necessary for him is to say "X" for exchange, and he and the end exchange assignments without causing the slightest mixup.

Against this defense we have our outside tackle drive the defensive tackle out toward the sidelines and our end come around behind the tackle and meet the linebacker as he is coming in on the play. The reason for having the end pull behind the tackle is to draw the linebacker into the play and make certain that the hole is opened first. The assignments of all the other linemen remain the same.

In running "22" against this defense, there are the same changes as



Diag. 3: Play 43 and 22 as operated against a 5-3-2-1 defensive setup.

in "43" plus one other minor difference. The defensive right guard is now at an angle that would make it much easier for the center to block him than to have the guard do the job. All the center need do is call out his own name, which will send the guard through after the linebacker, and the pivot man can take care of the guard. The remaining players go about their assignments in the same manner as they did in the previous play.

When the man with the ball arrives at the line, he cannot always expect to be able to drive a truck through the hole. It may be small, or it may be off to one side or the other, but he must use it and make the best of it.

Quick-Opener Against the 5-3-2-1: A 5-3-2-1 defense places a man directly on the head of our center, and this man is in the most advantageous position to break up our quick-opening plays. Therefore, we "double team" him, which means we assign both our center and our right guard to insure that he does not stop the ball-carrier's progress.

Diag. 3 shows our quick-opener against this type of defense.

The *right end* should immediately sprint out to get the outside linebacker. If he moves fast enough, the end should be able to drive the enemy all the way to the sidelines. The angle is fairly good and the defender is far enough away from the hole for our man to work deliberately.

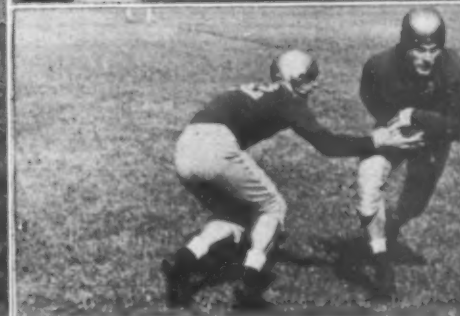
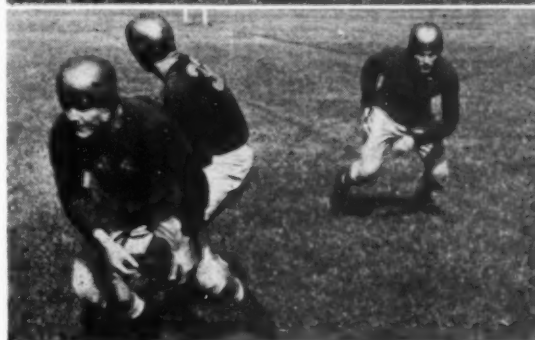
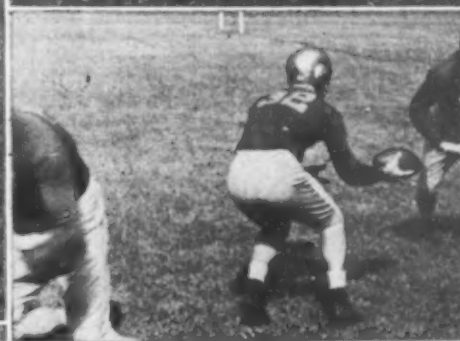
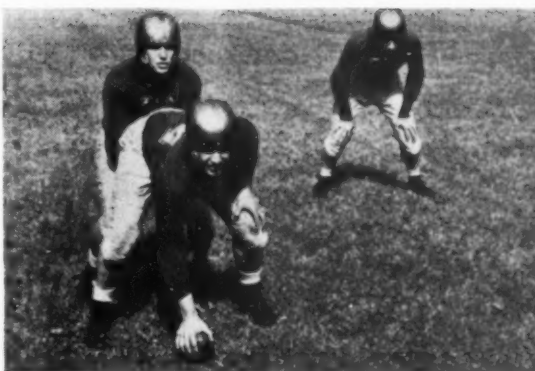
Ask the *right tackle* to come across the line of scrimmage; that is, step quickly across so that the opposing tackle will stay on his right side. This will make the block much easier and will be away from the hole.

The *right guard* and *center* must double team the man playing opposite the center. As soon as one of these men is in position to handle the enemy alone, the other lineman should head on downfield to help out in whatever situation develops.

Our *left guard* must pull around very fast behind the right guard. He takes short digging steps as he buries his shoulder in the midsection of the center linebacker. We insist that he stick with that man until the play is well on down the gridiron.

The *left tackle* and *left end* are asked once again to take care of the downfield blocking assignments. Before they break away, they must make certain that none of the opponents is pulling back to stop the play. All of our downfield blockers are instructed never to pass up a potential tackler. We want the field cleared, and if anyone makes a tackle, we want it to be a man in front of our blockers rather than a man behind them.

All four *backs* follow exactly the same procedure as against a six-man line. However, we frequently send our left halfback in motion with the hope that the outside linebacker will follow him out, thus allowing our right end



BASIC REVERSE PIVOT ILLUSTRATED BY JOHNNY LUJACK

The reverse is the most important pivot in the Notre Dame system. On the hand-off to the left half (Play 22), the quarterback lines up with his right foot forward. As soon as he receives the ball, he brings it into his stomach, then pivots just as fast as he can. He pushes hard with his right foot and shoulder, spinning around to face the sideline. He completes his pivot with his head up, back straight, and toes on about a 45° angle with the enemy goal line. The ball is held out with the feeding hand underneath so that the halfback can easily take it as he sprints by. The feeding hand gives about six inches with the ball-carrier.

to be an additional downfield blocker. We try to achieve this at every opportunity, because the more blockers we have past the line of scrimmage, the better the chance of obtaining six points.

Hereafter we will not explain the opposites of each play, since they are identical except that it is the corresponding man on the other side of the center who is carrying out the assignment.

"43" Against an Overshifted Six-Man Line: A six-man line that is overshifted to the hole side gives us a chance to use cross-blocking. As shown in **Diag. 4**, such a shift requires the halfback to veer a bit toward the right after he gets through the hole in order to circle the defensive guard.

When a cross-block is called, we ask the tackle to go first because his man, being nearest the hole, is most dangerous. Also, the man to be blocked by our guard will have partially com-

mitted himself, thus making him an easier target.

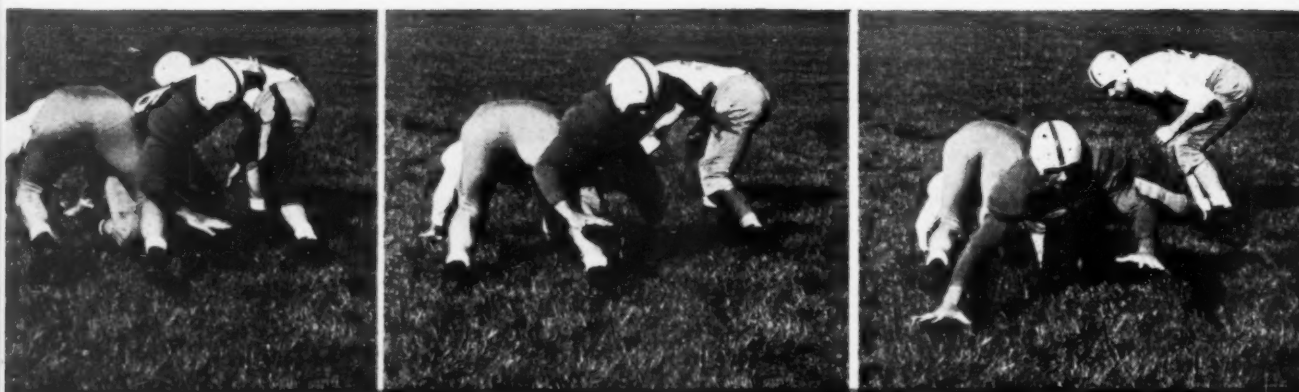
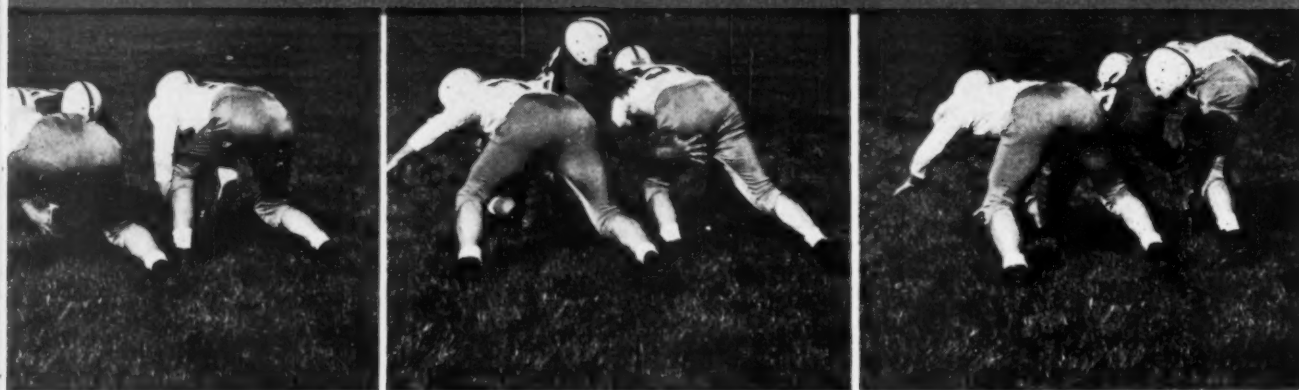
Since changing to the "T" we have found this to be a common defense, especially when the right halfback is the best running back. It is a tough defense to crack, but if your ball-carrier can get through the line and make a fast cut, he will find plenty of assistance once he gets past the linebackers.

The *right end* is asked to cut over fast and double team with the left guard on the center linebacker. They must drive this man toward the line of scrimmage and out in the direction of the sidelines. He will prove extremely troublesome if they do not get the jump on him. Once he starts retreating, one man can take care of him and the other may release and join in the downfield maneuvers.

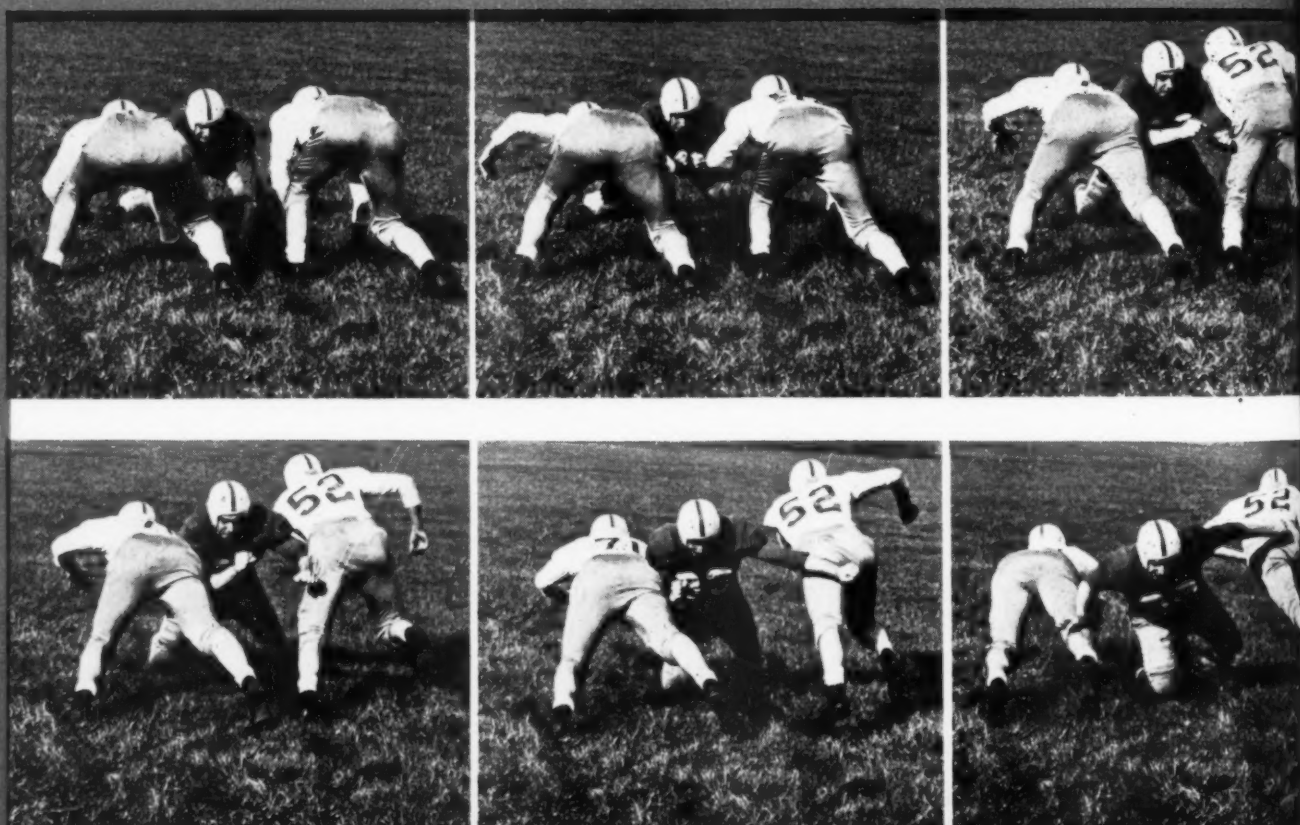
When cross-blocking is called, the *right tackle* goes first and buries his

(Continued on page 44)

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By **HARVEY HARMAN**
HEAD COACH, RUTGERS UNIVERSITY

Defensive Line Stunts

MODERN-DAY defense is a highly volatile, complex proposition, compounded of shifting, looping, converging, slanting, and other ingeniously devised deceptive patterns.

Basically speaking, however, the quintessence of defense remains—as always—good line play. A line that can withstand the offensive charge and get to the passer or ball-carrier is going to do all right. That's why every coach worth his salt will equip his defensive linemen with a good assortment of individual stunts and maneuvers.

When executed properly at the right time, these stunts will enable the linemen to evade the blockers and reach the carrier.

The choice of stunt generally depends on four factors: (1) the tactical situation; (2) the offensive alignment; (3) the ability of the offensive opponent; and (4) the ability of the defensive man.

At Rutgers, for example, we meet the T more "softly" than we do the single wing. We hit and drift more, slide, use more divergence, and don't meet the power as fast.

We do not let our linemen penetrate too deeply on their initial charge. They are instructed to play territory first, then the ball. This will vary, of course, with the tactical situation.

Against the single wing, our linemen usually go in deeper and faster. Their first responsibility is getting across the line; second, playing territory; and, third, going for the ball.

Our linemen are always told where they should be after their initial movement. How to get there is left to their initiative and the use of six or eight defensive stunts. Among the primary skills taught them are submarining, over the top, forearm charging, shiver charging, dip split charging, slic-

ing, and double coordination charging.

Every lineman needs a good springboard for his individual stunts, and at Rutgers we pay considerable attention to stance.

Our stance is a little off the beaten track, as you will notice in the accompanying pictures. We employ a three-point stance in which the rear leg is a little deeper than ordinary. This puts the lineman in a bit more of a sprinter's stance. Inasmuch as this stance permits the fastest possible getaway, it seems good sense to adapt it to line play.

The weight is distributed evenly over the front and rear feet, with a little weight over the grounded hand. The left arm is positioned over the forward knee to better protect the legs, while the head is up, the

back straight, and the hips low. In most cases, the rear foot is brought up in the initial movement.

Following are the basic stunts with which our defensive linemen are equipped. These stunts are illustrated on pages 10, 12, and 13.

Double Coordination. Used by a guard or tackle playing the split. The initial movement is to put one knee on the ground well between the two opponents. The hands are placed on one opponent and the hips and side of the body thrust against the other.

Pressure is applied until the gap is wide enough for the defensive player to twist at the hips and work his way through (as illustrated on the facing page). While twisting at the hips, the player can put one hand on each opponent.

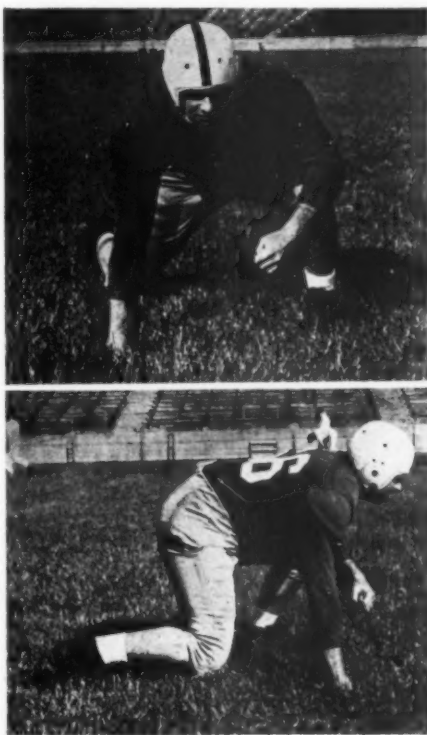
Dip Split Charge. The defensive player drives with head and shoulders at the knees of the offensive men. He shoots both arms through the split and uses his elbows to widen the gap created by his head on the initial charge. He tries to keep his legs under him and moving, while using his hands to fight his way through.

In the pictures (on the opposite page), the player has made his initial drive too high and has not lifted his head quite soon enough after making clearance. The head should always be up as clearance is made.

On this, as in other defensive maneuvers, the lineman must play his territory first (if territorial defense is employed) and the tactical situation second.

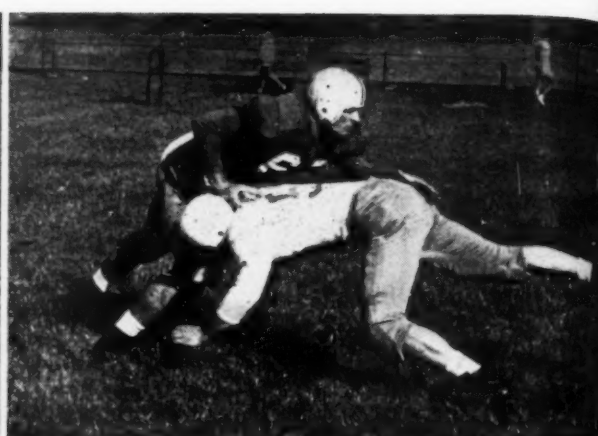
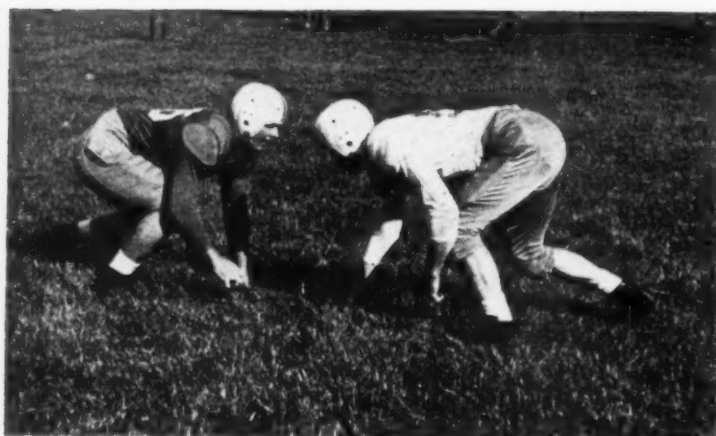
On passing downs, for instance, he plays a little higher, while in short-yardage situations he diverges or converges according to the planned defense.

Limp Leg. Used by either a
(Concluded on page 55)



Front and Side View
Basic Defensive Line Stance

LIMP LEG



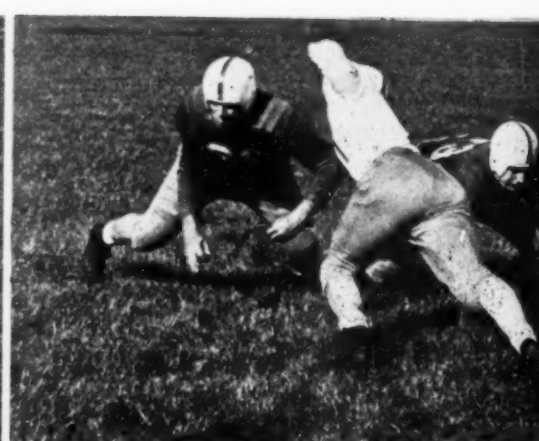
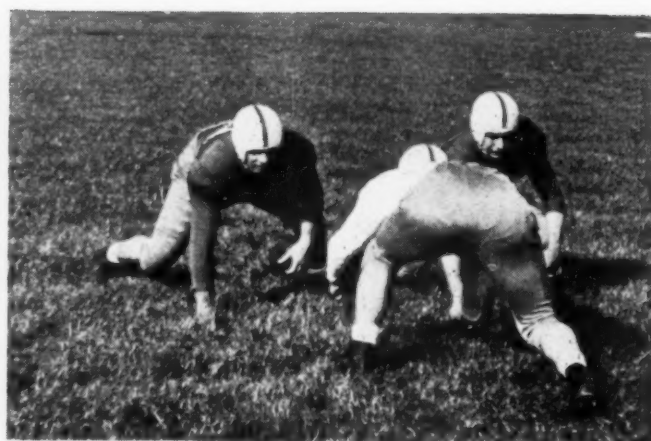
FOREARM SHIVER

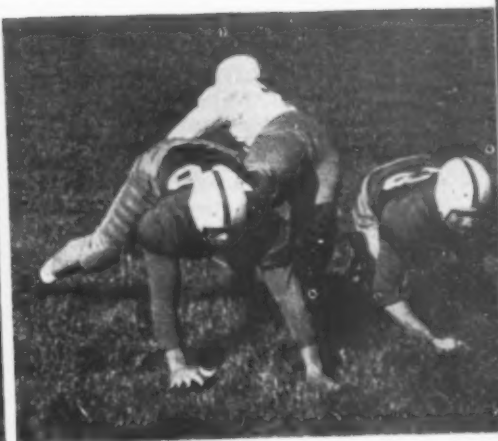
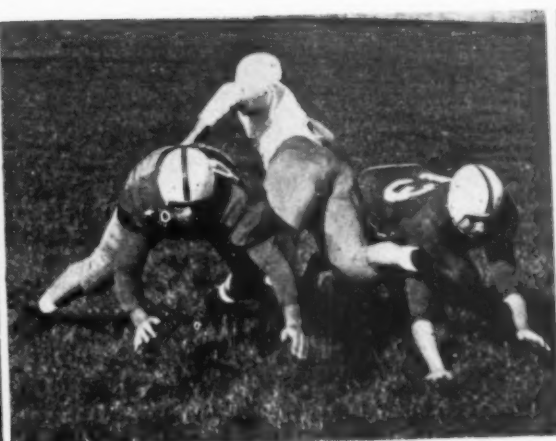
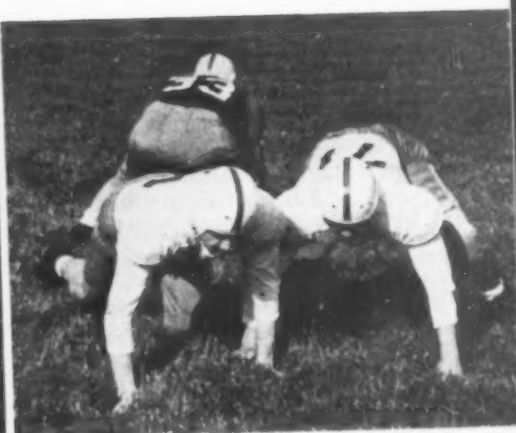
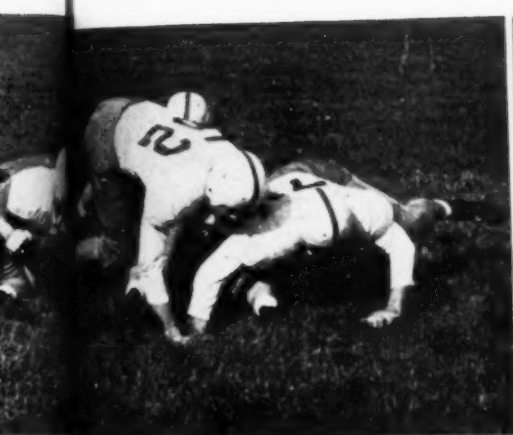
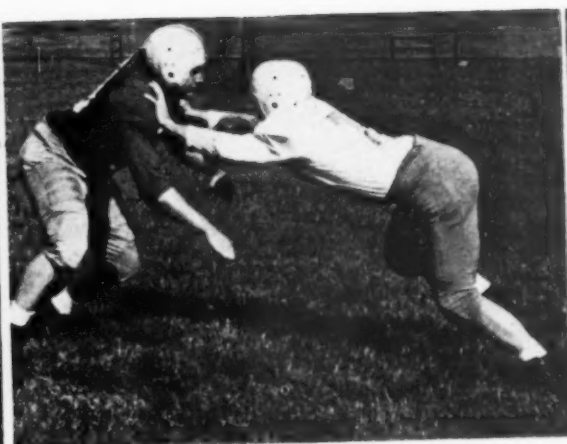
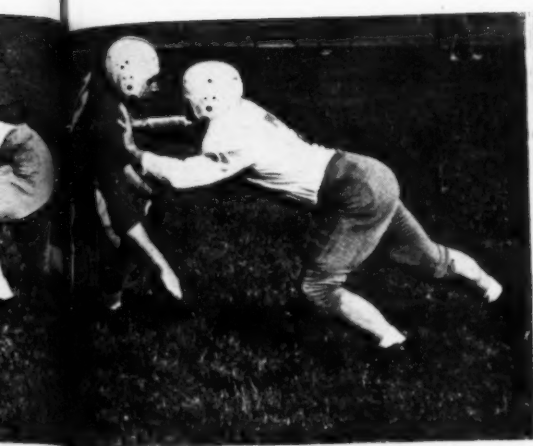
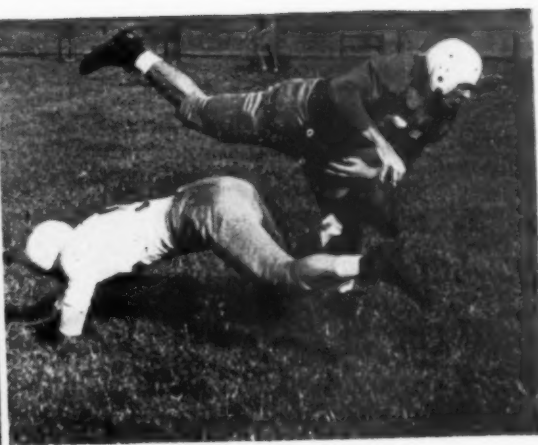
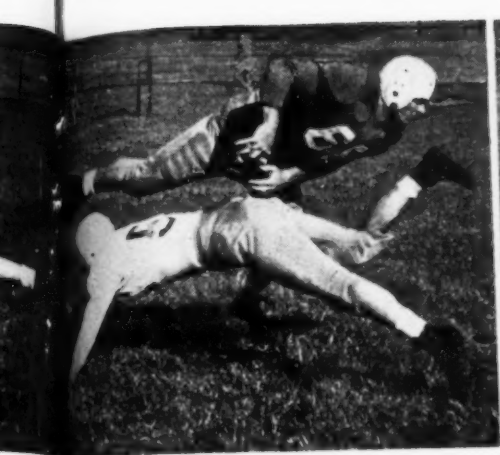


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Outside Attack from the Straight T

EVERY high school coach who employs the T must develop a dependable series of wide-striking "all-of-the-way" plays.

A T-offense which is weak to the outside soon finds its down-the-middle effectiveness impaired, while its passing game—particularly its long-passing possibilities—also suffers by reason of its inability to pressure defensive backs into coming up fast to cover against sweeps.

There is no denying that the wide attack from a plain T presents its difficulties. The absence of a wing-back plus the difficulty of swinging a wave of blockers in front of the ball-carrier without too great a sacrifice of speed, constitute apparent weaknesses—particularly in the high school T.

One way to deal with the problem, of course, is by use of motion, end flankers, backfield flankers, or end and back flanker combinations. This, however, leads to defensive adjustments.

In college and professional ball, a great many maneuvers in the way of counters, reverses, and statue plays can be deftly employed to keep the defense from playing too heavily against the flankered strength. Such tactics, however, demand a complicated repertoire of plays and a degree of poise and judgment not commonly found among high school quarterbacks.

These considerations make it advisable for the coach to place his primary reliance for outside offensive strength on plays which wheel directly out of a straight and unembellished T. He may supplement these as he sees fit with similar maneuvers featuring motion or flankers. But it is wise to make certain that when the need arises, his team can go wide effectively without depending on any anticipated defensive reaction to a posted or motioned flanker.

This, of course, sometimes takes

a bit of doing, and even though a coach may be unusually blessed with speedy backs, it still pays to devote considerable thought to the problems involved.

In designing a wide attack from the straight T, it is well to keep in mind the following principles:

1. The defense must be anchored momentarily by a quick-striking down-the-middle threat.

2. Key blockers must be sprung out in front of the ball-carrier and must be swiftly and effectively directed toward their targets in such manner as to give them effective blocking angles and approaches.

3. Maximum downfield blocking must be afforded.

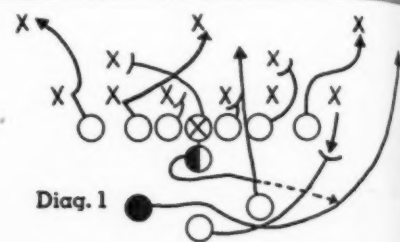
4. All of these things must be accomplished without sacrificing the all-important element of speed.

In short, the wide sweep from the T should round the defensive end and turn upfield like one of those Civil War cavalry charges which made the Confederate General Bedford Forrest's "Get there firstest with the mostest" a classic maxim of offensive operations.

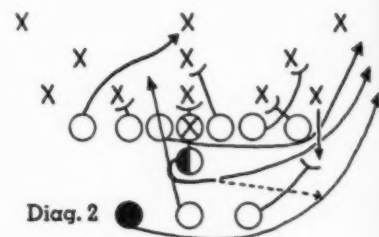
How can it be done? The following are a few of the ways—all of them adaptable to high school play—in which leading college and professional teams are wheeling wide from the straight-T.

Diag. 1 shows a fast-breaking and remarkably effective sweep which develops behind somewhat unorthodox blocking. The offensive end moves out in a hurry and goes downfield for the opposing halfback on his side, the latter being regarded as a key defender.

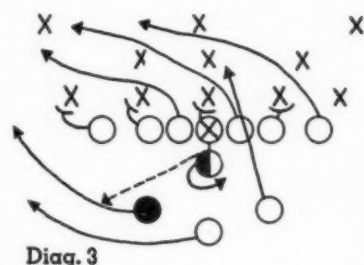
This maneuver by the end also serves to create the illusion of a developing pass play—especially where the defense has been coached to anticipate an aerial attempt whenever an end comes downfield without first making contact with an opposing lineman.



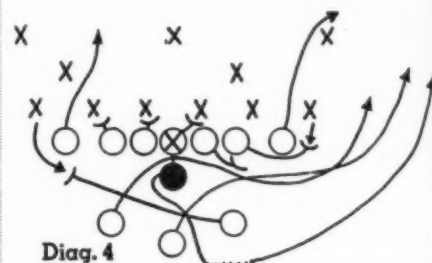
Diag. 1



Diag. 2



Diag. 3



Diag. 4

The tackle is assigned to make a key block on the linebacker, but must take the indicated route around the defensive tackle, thereby momentarily screening him out of the play. It is essential that the offensive tackle take his initial step with his outside foot, get head and shoulders across in front of his opponent's body, and then drive past and around him to the linebacker.

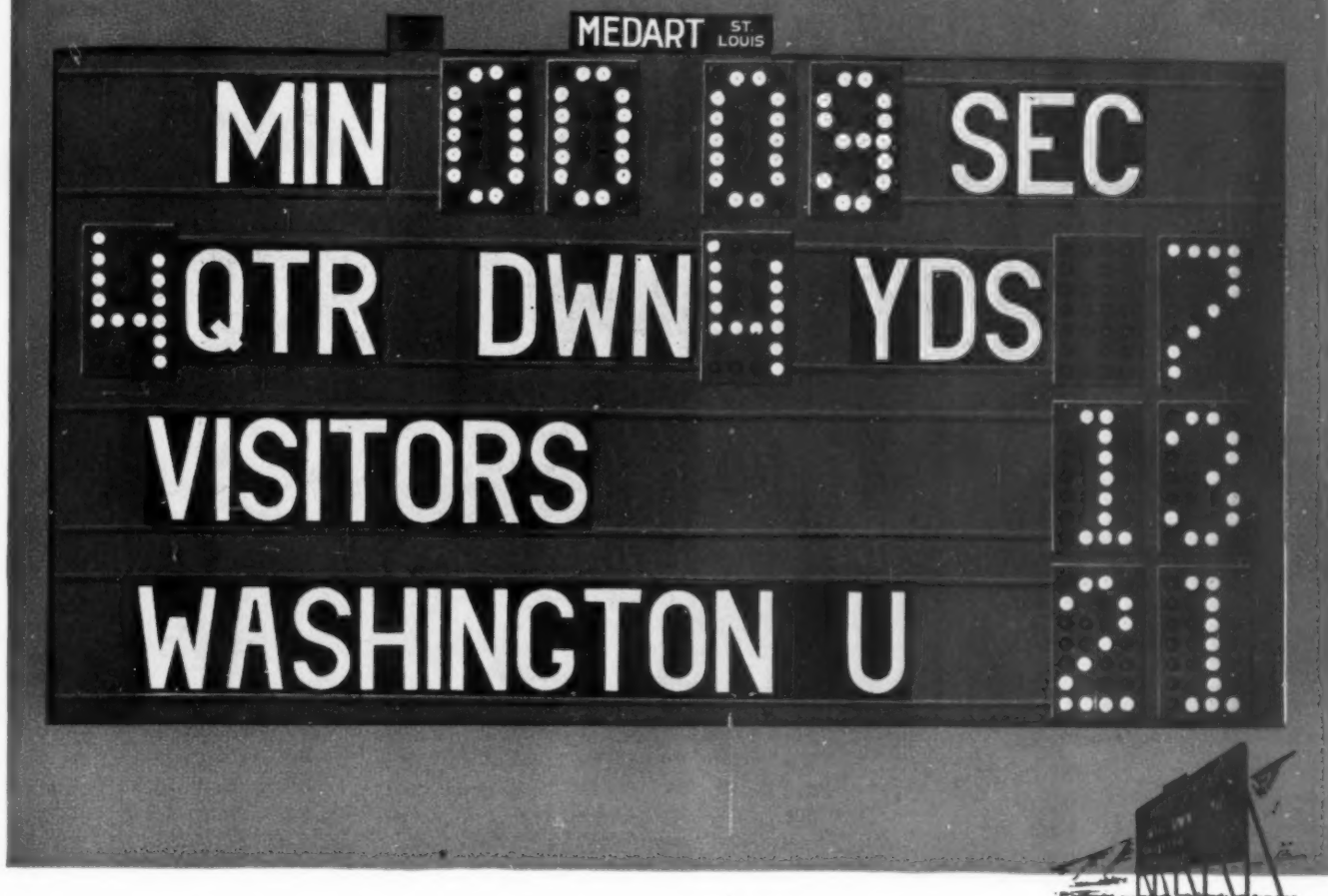
The plunging halfback serves at once to reinforce the screen on the defensive tackle and to hold the linebacker in position for the split-second which will enable the offensive tackle to make his contact.

The quarterback does a fast reverse spin, fakes handing off to the plunging back, then tosses to the other half who is the ball-carrier on the play.

The fullback has the all-important key block on the defensive end, but its execution presents no great

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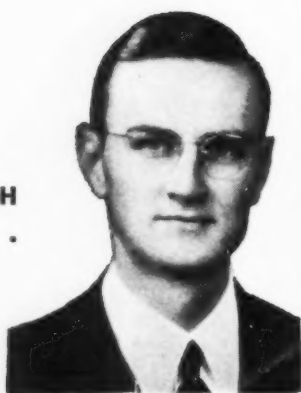
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problem where the play is run swiftly and the plunging back makes an effective fake into the line.

Another type of sweep, as outlined in **Diag. 2**, features more conventional blocking, permits quicker blocker contact with the defensive end, and utilizes the power-threat of a driving fullback.

On this play, the quarterback spins and tosses as the fullback roars up into the hole left by the guard's pull-out. The fullback thereby serves the double purpose of assisting the center in protecting the gap, and of anchoring at least one linebacker.

Moreover, this play permits solid and instantaneous blocking on both the defensive end and tackle, while at the same time permitting the running guard and even the quarterback, by virtue of their shorter paths, to get in ahead of the ball-carrier and serve as blockers.

Chief threat to its success would be a sure-tackling defensive halfback who comes up hard and fast to meet it. However, few secondary defenders can consistently employ these tactics without leaving themselves dangerously open to touch-down passes over them whenever they commit themselves too quickly on a wide fake.

Note also the possibilities of counteracting such defensive play by means of the ball-carrier cutting back just outside the defensive end, but inside the up-coming halfback.

Another device is the quick toss shown in **Diag. 3**. This is largely a surprise maneuver whereby a speedy halfback may be run wide around his side of a tightly drawn defense.

The play features quick step-out blocks by the end and tackle, with the quarter whipping the ball out to the ball-carrier with a fast underhand throw. The fullback who trails the play, is insurance in the event of a fumble or an erratic toss.

During the 1948 season, there was a noticeable tendency on the part of some top-flight T-formation coaches to make greater use of the quarterback as a ball-carrier. This was particularly true with regard to wide plays. One of the most effective means of doing this was the end-sweeping optional-pass-or-run maneuver which is depicted in **Diag. 4**.

It was on this type of play, but sweeping to his own left, that Frankie Albert, southpaw quarterback of the San Francisco Forty-Niners, ran rings around opposing defenses.

The play calls for the quarterback to spin back and fake a quick hand-off to the fullback, then fade back as if to pass. The full and the off-half

AFTER three successful years of head coaching at St. Regis College, Robert C. (Sarge) MacKenzie returned to his alma mater, San Francisco U., as jayvee coach under Clipper Smith. When Ed McKeever moved in as head man in 1946, the Sarge became assistant varsity coach. He coached for one year, then retired from athletics to devote all his time to teaching political science and history. A frequent contributor to various literary and technical publications, MacKenzie still retains a lively interest in football—scouting for the All-America Professional Football Conference.

start up into the line as if on a cross-buck, but veer out into the flat to act as posted blockers or potential short receivers, depending upon the way in which the particular play develops.

The other halfback crosses swiftly behind the fullback and picks up the defensive end on the opposite side.

The line employs a blocking pattern frequently used in protecting the passer. Linemen on the side to which the quarterback intends to swing, keep their feet and balance while establishing contact in such a way as to be able to hook their men in, or at least work them to the inside so that they will take an inner lane in attempting to rush the passer.

It may be necessary for the guard and tackle on that side—particularly the tackle—to pull out and back (as shown in the diagram) in order to come up in good blocking position to meet their respective targets.

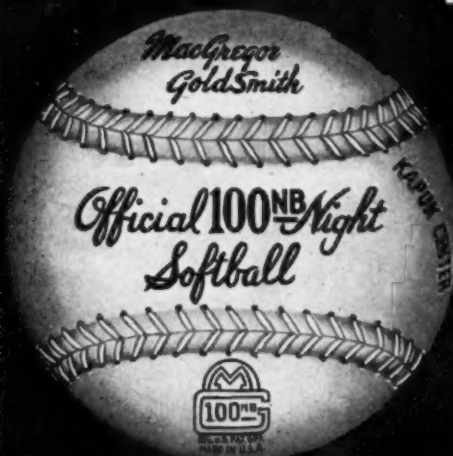
Meanwhile, the quarter, after having faded a bit, looks around as if to spot a receiver. Suddenly he dashes for the sidelines and, as he gains the outside of the defensive flank protection, starts to come forward. Advancing at every step and continually threatening to pass as he does, he is in a position to take advantage of the individual reactions of the defenders in the opposing secondary.

If the latter should come up rapidly, the quarter can throw to either of his own ends who must necessarily be left open by the defensive commitment against the threatened run. On the other hand, if the defenders stay back to cover against deep passes, the quarterback may either run or throw short to the full or half who have faked the cross-buck and are now well over in the flat ahead of him.

Quite different, but a play which

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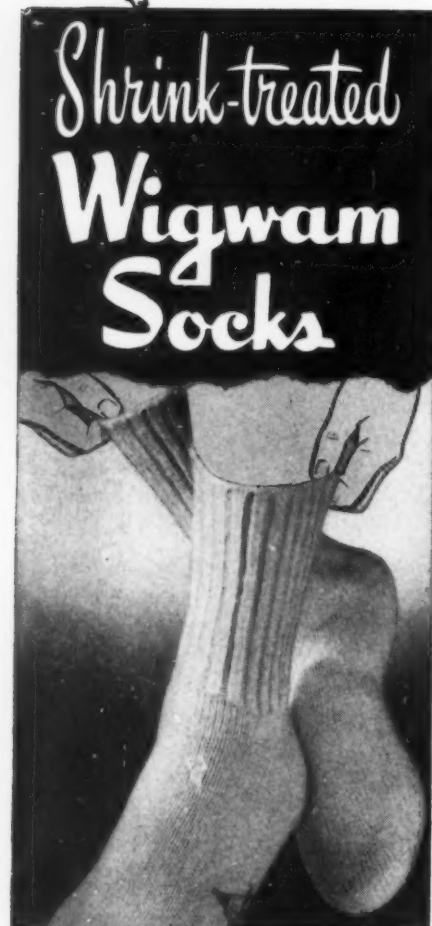


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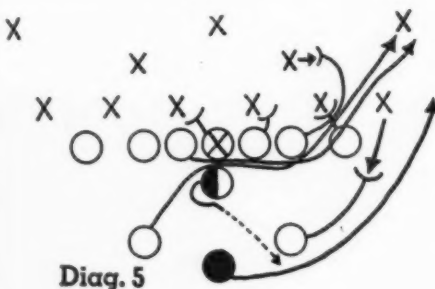


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will appeal to those who like strong interference in front of their ball-carriers, is the one in **Diag. 5**.

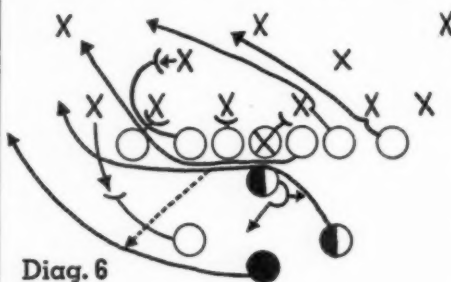
Note the manner in which the left half drives up past the retreating spin of the quarterback. The left half fakes a drive into the line, veers at the last moment, and follows the guard who has pulled.



The left half's initial slant serves to supply the inside threat and at the same time screen off any defensive lineman who might break through the center's block. Then, moving laterally along the scrimmage line in the wake of the guard, he races to get into the interference ahead of the ball-carrier.

A variation of this same play can have the quarter make a fast spin, fake the toss to the fullback, then follow the latter around end. This affords a nice offensive change of pace and permits a fast quarter to utilize a powerful and hard-blocking fullback as a personal interferer.

Another play cut from this pattern—and one which might be preferable when running to the left in cases where the backfield personnel is entirely right-handed and inclined to have difficulty in executing the left-moving version of the maneuver in **Diag. 5**—is the one shown in **Diag. 6**.



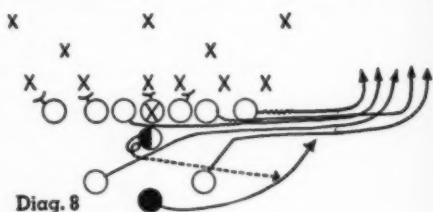
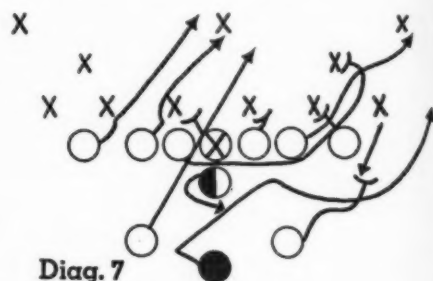
Then, of course, there are the reverses, wide-counters and the slant-and-swing sort of things. A sample of the latter is outlined in **Diag. 7**.

Still another method of striking to the outside is that of building a virtual wall of blockers wide of the defense and then rifling a lateral to a swinging back as he comes in behind the forming screen. This principle, when employed in combination with adept ball-handling and a deceptive double-spin on the part of the quarterback, has proven ex-

tremely effective. This somewhat unusual maneuver appears in **Diag. 8**.

Note that the defensive end and tackle are screened out for a moment by their opposite numbers on the offensive line. After working through the screening effect provided by the offensive end and tackle, the defenders encounter the guard and the two backs driving wide to form the wall of blockers in the flat. The two most dangerous defensive linemen are effectively kept out of the line of the lateral to the fullback.

The double-spin by the quarterback tends to draw in the defense, thereby setting up the situation for a long run by the back who takes the toss. However, while the defense is drawn in by the spins and fakes, it is prevented from coming in too fast by the screen of backs and linemen who are moving out to form the wall of blockers.



Another highly effective means of running a defensive end is that of setting up an inside-outside hit-and-sweep series of plays. It can start with the quarterback tossing a short and fast waist-high lateral to the fullback on a play similar to that shown in **Diag. 5**.

However, there is this difference. The left half starts fast to his right and then cuts in over his own center position. Simultaneously, the quarterback, after tossing, turns back swiftly and fakes a hand-off to the left half as the latter makes his cut. This is not a particularly strong play in itself, but it serves to set the stage for what is to follow.

Next in the sequence comes a fake toss to the fullback with an actual hand-off to the left half (**Diag. 9**).

With the strong outside draw furnished by the faked toss to the fast-moving full, this play can generate real power down the middle.

Some coaches find it advisable to
(Concluded on page 48)

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Football Practice Devices

By **EMIL LAMAR**

Berkeley (Calif.) High School

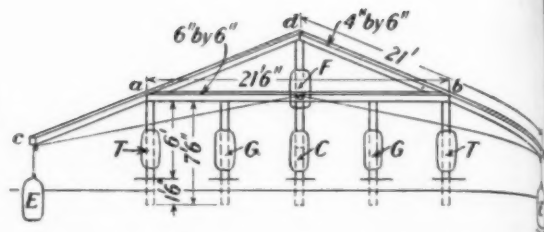
NEARLY every football field possesses some sort of equipment to facilitate the practice of the fundamentals. Most of these devices are professionally manufactured, and do a fine job of conserving manpower and developing technique.

Where the budget permits, the purchase of these professionally manufactured devices is definitely recommended. Many schools, however, do not have the funds to buy such equipment, and it is at these schools that this article is aimed.

The author will attempt to show how scrimmage and charging machines can be constructed in the school shop. This project is met with pride and joy by the shop students, and under proper supervision they can do a satisfactory job.

Glenn "Pop" Warner, the famous

Dummy Scrimmage Machine: A useful device for rehearsing offensive plays; features seven defensive line dummies and a defensive fullback dummy.



old Carlisle Indian and Stanford U. coach, was the inventor of a dummy scrimmage machine similar to the one depicted on this page. This machine serves as a defensive line against which a coach may work his team on offense without danger of injury.

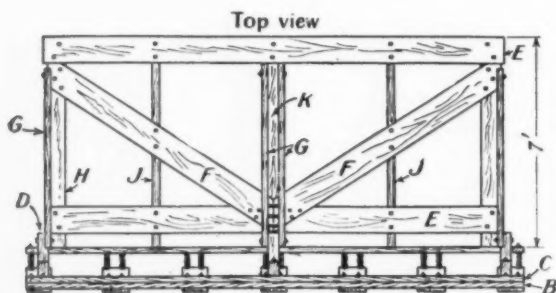
The plays to practice against this machine are those chiefly used inside the opponents' 10-yard line—plays designed for quick touchdowns.

The scrimmage machine possesses five dummies representing the five center linemen, and two suspended dummies representing the right and left ends. The latter suspensions hang over the scrimmage line, since defensive ends are coached to drive across the line the instant the ball is snapped.

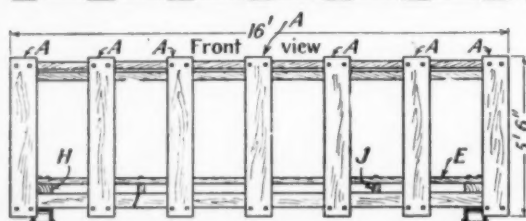
The suspension of the two end dummies also permits the coach to develop vicious cross-blocking in his offensive plays. This was the type of offensive power for which "Pop" Warner's teams were noted.

To construct this dummy scrimmage machine, you will need the following material:

- 6 pieces 6 in. x 6 in. x 7½ ft. for upright timbers.
- 1 piece 6 in. x 6 in. x 21½ ft. for center horizontal timber.
- 2 pieces 4 in. x 6 in. x 21 ft. for side horizontal timbers.
- 2 standard size tackling dummies.
- 6 pieces of canvas 36 in. x 60 in.
- 40 ft. of padding material for old rope mats.

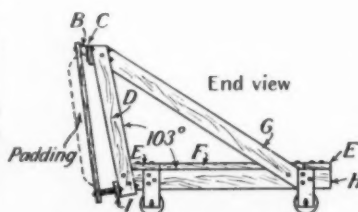


Charging Machine: Develops quickness in charging and affords much-needed development of leg and back muscles. Blocking surfaces have some give, enabling players to hit harder without danger of injuries.



A-Charging surfaces
B-Intermediate spacer
C-Upper horizontal spacer
D-Frame uprights

E-Timber spacers
F-Diagonal braces
G-Charging-surface braces



H-Wheel-support timbers
I-Spring span support
J-Intermediate timbers
K-Center timber

Plan of assembling. Select a good spot about 40 feet square on the athletic field, then draw a straight line upon which to set up the five center posts from tackle to tackle.

Now dig five holes 18 in. deep and 12 in. in diameter. These are for the center posts, which will be sunk equally distant apart.

The center horizontal timber a-b to which the five center upright timbers will be attached, is marked next. It is a good idea to build this horizontal timber of three 2 in. x 6 in. x 21½ ft. planks. This is better suited for simple assembling than a solid piece of timber. Where this is done, spikes may be used to fasten the posts to the center timber.

After the five upright timbers are secured to the horizontal timber, the next step is to hoist the unit into its permanent place. Concrete should be poured around the base of the five uprights and plumbed into place with a spirit level.

The fullback post may next be set up in the same manner. The hole for this post should be dug 18 in. deep and 9 ft. directly in back of the center post. Give the concrete at least 24 hours to harden, after which horizontal beams c-d and d-e may be set up and bolted into place. These beams may be segmented out of 2 in. x 4 in. timbers.

The two ends of the horizontal beams may be rigged with pulleys to support the hanging tackling dummies.

The problem of padding the six upright posts is quite simple. Use old rags or rope mats and circle around the posts. Tie these in place and cover with waterproof canvas.

Paint the machine with a good quality gray or white house paint.

FOOTBALL CHARGING MACHINE

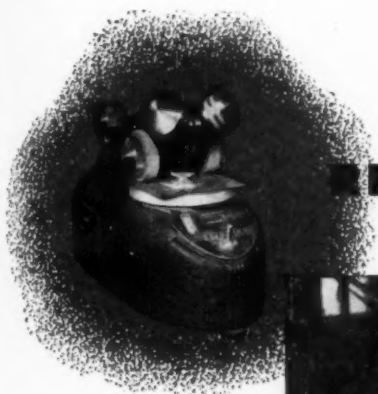
A charging machine is a very useful device for developing a hard, fast-charging line. The heavy-duty machine in the accompanying sketch may easily be built by a manual training class, and is suitable for both high school and college teams. This machine will bear the weight of 11 boys sitting on its timbers while seven boys drive against it with their shoulders.

Selection of materials. Good
(Continued on page 50)

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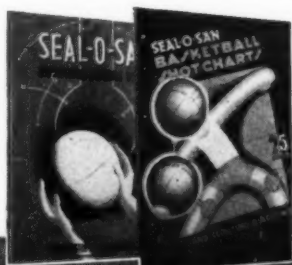
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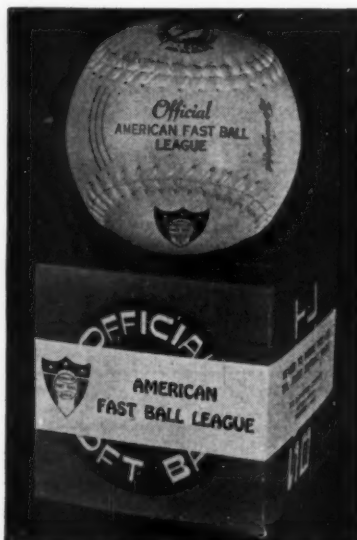
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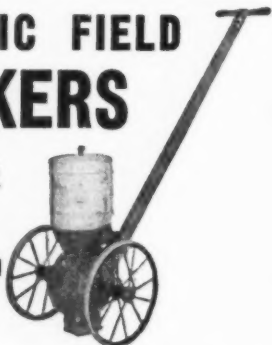
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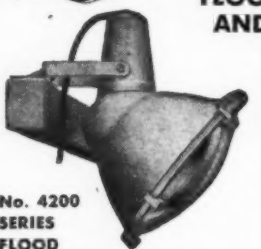
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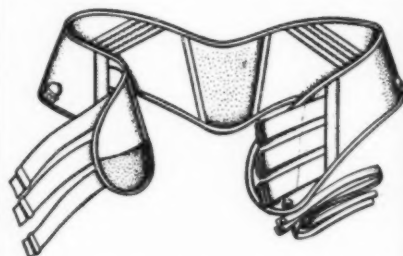
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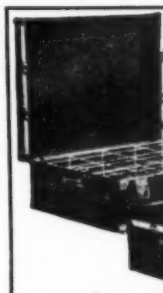
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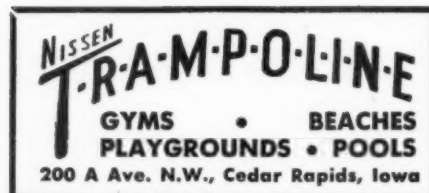
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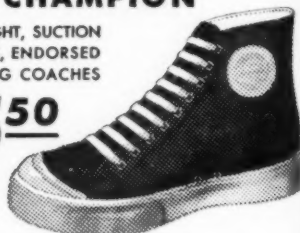
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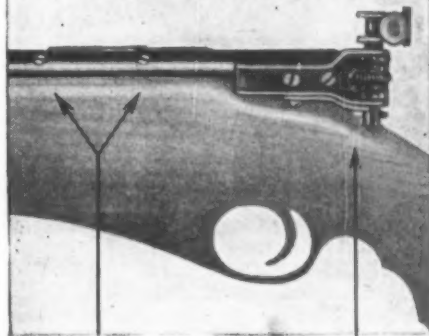
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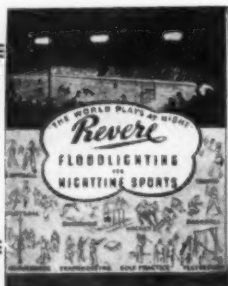
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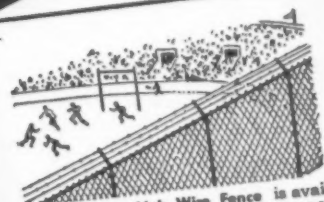
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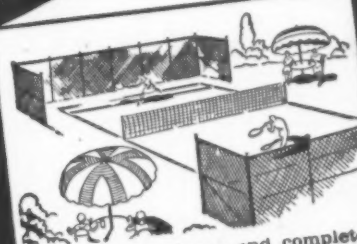
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Football

AIKEN, JIM, Oregon—Oregon U.; Utah Coaches (adv. on p. 56).

BELL, MATTY, S.M.U.—Colorado Coaches (adv. on p. 59, May); Hot Springs; Louisiana Coaches (adv. on p. 48, April); Missouri U.; Oklahoma Coaches.

BIERMAN, BERNIE, Minnesota—Minnesota Coaches; Illinois St. Normal.

BUTTS, WALLY, Georgia—Eastern Penna. (adv. on p. 56, May); Georgia Coaches (adv. on p. 48); New Mexico (adv. on p. 58, May); Oregon U.

CALDWELL, CHARLEY, Princeton—Eastern Penna. (adv. on p. 56, May); Edinboro (adv. on p. 59, May); Bethany Coll. (adv. on p. 54).

CHERRY, BLAIR, Texas—Louisiana Coaches (adv. on p. 48, April).

DONELLI, BUFF, Boston U.—Springfield Coll. (adv. on p. 60).

ELIOT, RAY, Illinois—Murray St. (adv. on p. 48, April); New York St. (adv. on p. 58, May).

ENGLE, RIP, Brown—New York St. (adv. on p. 58, May).

ENRIGHT, REX, South Carolina—Edinboro (adv. on p. 59, May).

FAUROT, DON, Missouri—Alabama U.; Missouri U.; So. Illinois U.; Texas Coaches (adv. on p. 60).

FESLER, WES, Ohio St.—Ohio Football (adv. on p. 60); West Virginia U.

HIGGINS, BOB, Penn St.—Eastern Penna. (adv. on p. 56, May); Penn St. (adv. on p. 46, April).

HOLCOMB, STU, Purdue—Ohio Football (adv. on p. 60); Western Illinois St. (adv. on p. 63); Bethany Coll. (adv. on p. 54).

JAMES, GEORGE, Cornell—Connecticut U. (adv. on p. 57, May).

LEAHY, FRANK, Notre Dame—Colorado Coll. (adv. on p. 56, May); Georgia Coaches (adv. on p. 48); Hot Springs.

MEYER, DUTCH, T.C.U.—New Mexico (adv. on p. 58, May); Utah Coaches (adv. on p. 56).

MUNGER, GEORGE, Pennsylvania—New York St. (adv. on p. 58, May).

MUNN, BIGGIE, Michigan St.—Doane Coll. (adv. on p. 60); Michigan Upper Peninsula.

MURRAY, FRANK, Marquette—Ohio Football (adv. on p. 60).

ODELL, HOWIE, Washington—Doane Coll. (adv. on p. 60).

SHIPKEY, TED, Montana St.—Montana St. U. (adv. on p. 55, May).

SNARELY, CARL, North Carolina—Adams St. (adv. on p. 48, April); Connecticut U. (adv. on p. 57, May); Georgia Coaches (adv. on p. 48); North Carolina U.; South Carolina U.; Texas Coaches (adv. on p. 60); Bethany Coll. (adv. on p. 54); Virginia St.

VALPEY, ART, Harvard—Colby Coll. (adv. on p. 59, May).

WALDORF, LYNN, California—Adams St. (adv. on p. 48, April); Arizona Coaches (adv. on p. 48); California's Workshop; Rocky Mt. (adv. on p. 52).

WILKINSON, BUD, Oklahoma—Washington Coaches (adv. on p. 56, May).

WILLIAMSON, IVY, Wisconsin—Wisconsin Coaches (adv. on p. 58, May).

Basketball

BEE, CLAIR, L.I.U.—Adams St. (adv. on p. 48, April); Hot Springs; Missouri U.; Utah Coaches (adv. on p. 56).

CARNEVALE, BEN, Navy—Eastern Penna. (adv. on p. 56, May).

CASE, EVERETT N., North Carolina St.—Indiana Basketball (adv. on p. 56, May).

COWLES, OZZIE, Minnesota—Minnesota Coaches; Michigan Upper Peninsula.

COX, FROSTY, Colorado—Colorado U.; Washington Coaches (adv. on p. 56, May).

DIDDLE, ED, Western Kentucky—Louisiana Coaches (adv. on p. 48, April).

FOSTER, BUD, Wisconsin—Wisconsin Coaches (adv. on p. 58, May).

HICKEY, ED, St. Louis U.—Colorado Coaches (adv. on p. 59, May); Doane Coll. (adv. on p. 60); Murray St. (adv. on p. 48, April); Rocky Mt. (adv. on p. 52); Illinois St. Normal.

HINKLE, TONY, Butler—Indiana Basketball (adv. on p. 56, May).

HOBSON, HOWARD, Yale—Connecticut U. (adv. on p. 57, May); New York Basketball (adv. on p. 59, May); New York St. (adv. on p. 58, May).

IBA, HANK, Oklahoma A. & M.—New Mexico (adv. on p. 58, May); Southern Illinois U.; Texas Coaches (adv. on p. 60).

KRAUSE, ED, Notre Dame—Colorado Coll. (adv. on p. 56, May); Rocky Mt. (adv. on p. 52).

LAWTHER, JOHN, Penn St.—Penn St. (adv. on p. 46, April); Virginia St.; West Virginia U.

PATTON, LEE, West Virginia—South Carolina; West Virginia U.

PETERSON, VADAL, Utah—Adams St. (adv. on p. 48, April); Springfield Coll. (adv. on p. 60).

RUPP, ADOLPH, Kentucky—Colby Coll. (adv. on p. 59, May); Fremont (adv. on p. 57, May); Georgia Coaches (adv. on p. 48); Montana St. (adv. on p. 55, May); New Mexico (adv. on p. 58, May); New York St. (adv. on p. 58, May); Texas Coaches (adv. on p. 60); Wisconsin Coaches (adv. on p. 58, May).

WELLS, CLIFF, Tulane—Indiana Basketball (adv. on p. 56, May).



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Flexible form-fit knitted cotton and rayon pouch. Full lateral waistband stretch at seam. Edges selvaged to minimize rolling and curling. 3" waistband. 1 1/4" leg bands with inlaid rubber.

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Noon-Hour Intramurals

MORE and more schools are coming to regard the noon hour as an integral part of the activity program—particularly in central rural communities, where most pupils are brought to school by bus and spend the entire day there.

The noon-hour problem is not so vital in the city schools, since a large percentage of the students go home for lunch. But even here, there are large numbers of students who remain in school during the noon hour.

Some schools stagger their lunch-hour schedules so that classes are held throughout the noon hour. Many schools, however, do not observe such a system, thus freeing a large number of students for some kind of activity.

The problem is: What to do with the students between the finish of lunch and the start of the afternoon classes? Some pupils might prefer to sit this recess out. But most boys and girls want activity and if the school won't provide it, they will seek out their own.

If we grant there is a need for something to occupy their time, who should be responsible for the administration of it? The answer is—the physical director. By nature of his training and experience, he is the one most qualified for the task of working out a program.

The easiest solution, and the one used much too often, is to merely toss out some balls, bats, and other game equipment, keep a first-aid kit handy, and hope for the best. This might keep the pupils busy, but its educational value is dubious.

Where the director is willing to devote some time to the organization of a program, it is possible to inculcate a wide range of activities that offer educational and recreational value varied enough to meet the needs of all ages and groups involved.

The first move in organizing a program is to check the grades that will be included, and what equipment and space will be available.

By **ROLAND F. ROSS**

ROXBURY (N. Y.) CENTRAL SCHOOL

The idea is to utilize all the available space all of the time.

As a rule, the lower grades will report first, closely followed by the upper grades and the high school pupils. It will be necessary, therefore, to divide the program into definite time periods.

It is also a good idea to design a program for both inside and outside. For example, a schedule of touch football for good weather and volleyball for rainy days will nicely take care of the high school boys.

At Roxbury Central School, we have developed a program which meets all the needs of the noon-hour period.

Our athletic facilities include a combined gym-auditorium and a

four-acre athletic field. The gym is 55 ft. by 66 ft., and the stage 24 ft. by 43 ft. Our bleachers, which seat 400, fold up against the wall, thus giving us practically the entire floor area for use.

The stage space is used for table tennis and other games requiring small areas.

For outdoor activity we utilize the entire four-acre field.

In our program, grades one and two do not come to the gym for noon games. They have activities in their homeroom during inclement weather, and use the swings, slides, etc., on the playground in fair weather.

Teachers assigned to noon duty on alternate weeks supervise these activities. The physical director merely helps in an advisory capacity.

Grades three to six inclusive report for their activities at 11:55. When outdoor activity is possible, the third and fourth grades join the first two grades on the playground, while grades five and six report to their assigned section of the athletic field for supervised games.

When an indoor program is necessitated, grades three to six stay in the gym from 11:55 to 12:15.

This group is divided into four groups for play, namely grades 3 and 4 boys; grades 3 and 4 girls; grades 5 and 6 boys; and grades 5 and 6 girls.

In organizing our indoor program, we stick to games that work well around a common play center. Games that require a great deal of space are avoided. We don't want play areas overlapping each other. This causes confusion and injuries.

Student assistants help administer these activities. We appoint two boys and two girls for a week at a time. A record of their time is kept on a school service card and counts as points toward their school letter. (See article in *Scholastic Coach*, February 1939, page 11.) These helpers are excused from class a few

(Concluded on page 56)

Sample Schedule Indoor Program

11:55 to 12:15

Grades 3-4 boys—Slap Jack
Grades 3-4 girls—New Orleans
Grades 5-6 boys—Tadpole
Grades 5-6 girls—Indian Club
Guard

12:15 to 12:45

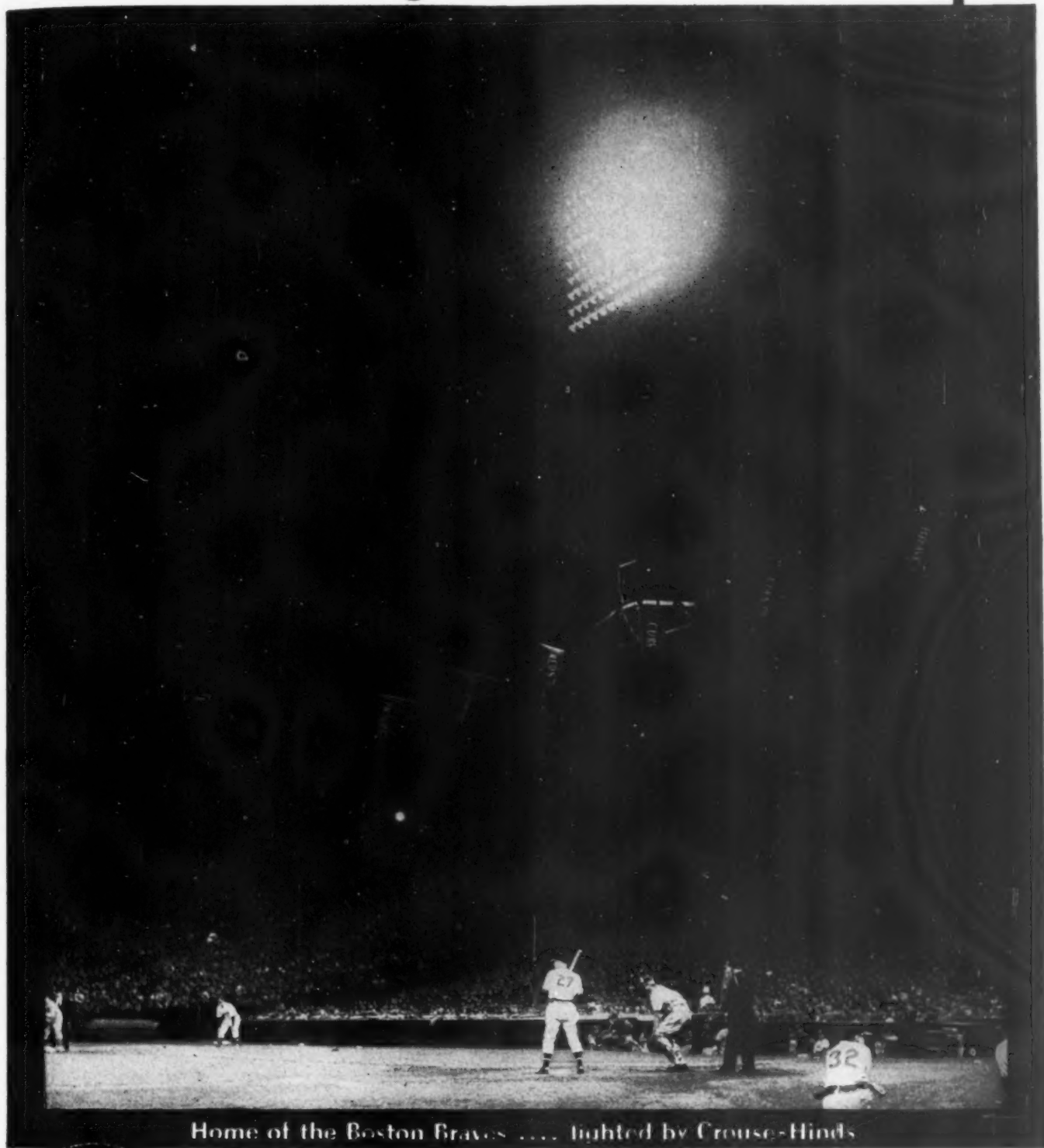
Grades 7-8 boys—Box Hockey
Table Tennis

Grades 7-8 girls—Miniature
Bowling
Table Tennis

High school boys—Volleyball
Table Tennis
doubles
Box Hockey
Checkers

High school girls—Badminton
doubles
Checkers
Shuffleboard
Table Tennis
doubles

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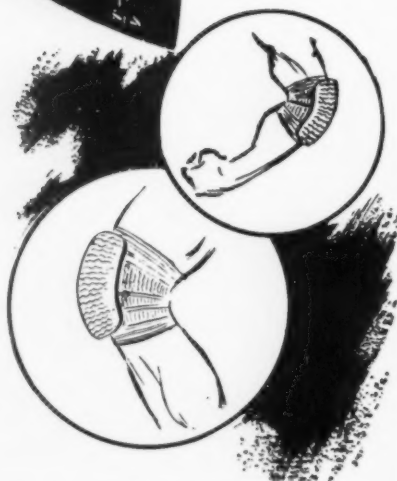
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Notre Dame's Quick Opener

(Continued from page 9)

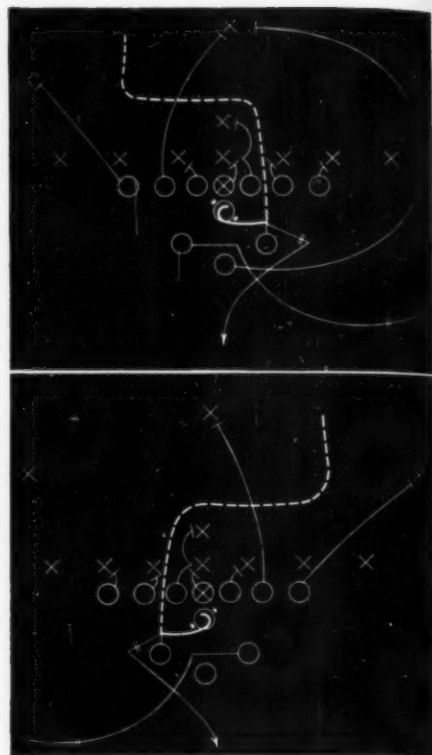
shoulder in the defensive left guard. He should continue to take short, digging steps until he is absolutely certain that the ball-carrier is well on his way. We instruct our men to be especially careful that the opponent does not roll away from them and bring the ball-carrier down from behind. If the guard makes a move, we want him to have to circle our tackle to his left, which will bring him into the backfield after the ball has left.

Our right guard hesitates for a split-second to allow the tackle to cross in front of him. Once the tackle is past, he moves over rapidly, giving the defensive tackle an inside head fake, and then blocking from the outside with his shoulder. He should keep bumping his man away from the line of fire. This type of block gives our guard a good opportunity to shake up this man and kill his appetite for the game. When that spirit is broken, touchdowns come easily.

The center has a man playing directly opposite him, and we ask him to block that man away from the hole. We want him to stick with his opponent for quite some time, since we usually find that man exceptionally aggressive.

As previously explained, the left guard double teams with the right end on the center linebacker. He should render all the assistance possible in order to get the job done more quickly.

Our left tackle lopes through for the safety man. He should not turn on his speed until the ball-carrier has



Diag. 5: Play 43 and 22 against a normal seven-man defensive setup.

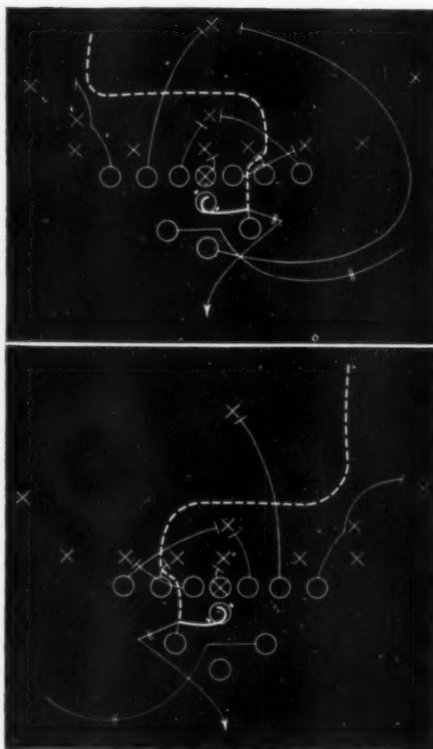
caught up with him. He should always try to keep about a step ahead of the man with the ball, and about three yards away from him.

He is joined in the downfield blocking by the left end, who first shoulder brushes the offside linebacker. Should this backer-up be exceptionally aggressive, we ask our end to stay with him as long as is necessary.

The activities of the backfield men do not change against this type of defense. However, we frequently have the quarterback send a flanker to the opposite side of the play.

When you do this, scrutinize the changes that are made in the defense. This often produces the break for which you have been waiting, especially if the right halfback is the mainstay of your offense. On a team where the left halfback is the No. 1 ball-carrier, play number "22" takes precedence over "43," but all of the foregoing suggestions hold true. We like to run both plays as often as possible to prevent the enemy from formulating a set defense.

Many times against an overshifted defense, we have found it easier for the right end to cross over and block the defensive guard in, and the right tackle to go through on the middle linebacker. This works out best when the opposing guard is playing directly on the head of the tackle. In this situation, it would be too difficult for the offensive tackle to assume a good angle; therefore, he just informs the end of the exchange of assignments



Diag. 4: Play 43 and 22 against a six-man line overshifted to right.

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POWDER	
Calcium propionate	15.0%
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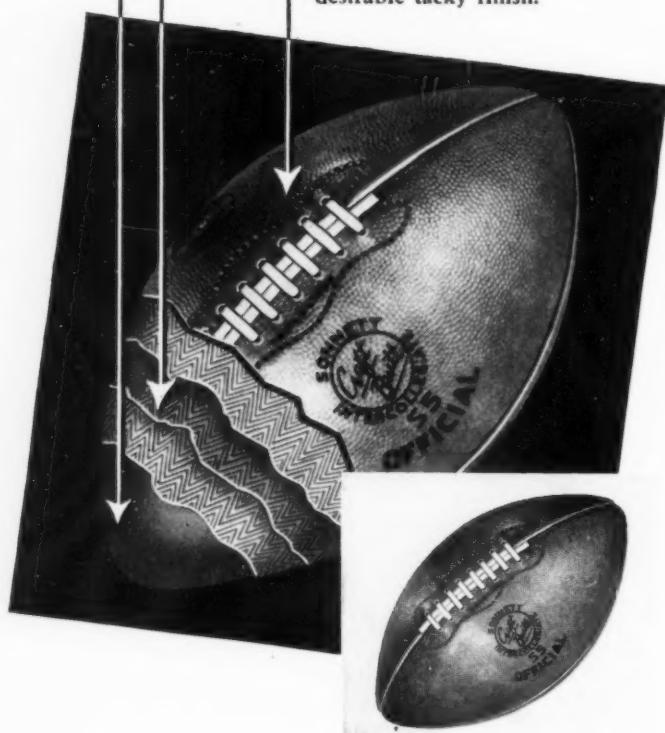
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and the remaining players carry out their original duties. Cases like this have proved to us that the tackles are in the best position to call the blocking assignments. This is a far cry from the days when all that was required of a tackle was that he be big and strong.

"43" Against a Seven-Man Line: All things being equal, the quick-opener should work most successfully against a seven-man line. The reason for this is that with man-for-man blocking, each opponent in this defensive set-up is in a position where he can be blocked with the least difficulty.

It is against this defense that the timing must be most perfect, and if it is, you will find that it brings excellent results. We find that the men react more quickly against this defense because it is much easier to recognize. The individual assignments are simple and a brief outline should clarify all duties (**Diag. 5**).

The *right end* blocks the defensive tackle away from the hole, while the *right tackle* is driving the opposing guard in the same direction. The tackle should make certain that he gets a good angle when the quarterback calls "Down," since once he has the angle he will not have much trouble moving the man out. A shoulder block should be applied, and we ask him to stay with the man long enough to allow the ball-carrier to get far down the field.

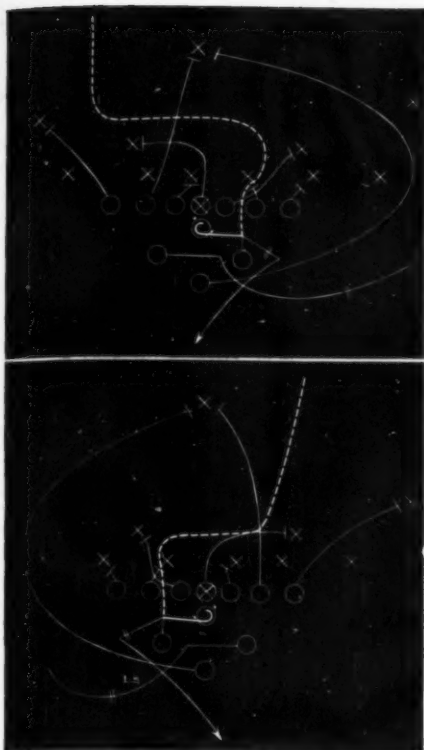
The key blocker is the *right guard*. He should make a very hard fake at the defensive center, then circle the linebacker and drive him back and away from the hole. A quick-starting, hard-driving guard can make this play a "breadwinner" against a seven-man line. His fake should make the enemy center an easy target for our pivot man, who blocks him with his left shoulder.

The *left guard's* duty is to see that the opposing guard has to pass on his left if he wants to get into our backfield. If he does this, enough time will elapse to allow the ball-carrier to be on his way.

The *left end* and *left tackle* are once again called upon for the downfield blocking; however, we do ask them to scuffle with the opposing linemen long enough to prevent them from pulling out and catching up with the runner. If the line appears too tight to open a hole, we usually spread our outside end, which will cause the defense to expand.

"43" Against a Slanting Six-Man Line: The sixth type of defense we frequently look at on a Saturday afternoon is what appears to be a normal six-man line, but which, as the signals are being called, slants to such an extent that it would be impossible for our linemen to do a satisfactory blocking job.

It took a long time to solve this because we had difficulty in locating just where the men were. After running through our movies a number of times, we analyzed the defense as shown in **Diag. 6**, and since then we have had considerable success with our block-



Diag. 6: Play 43 and 22 against a slanting six-man enemy alignment.

ing tactics. We have given this defense a code name, and when our opponents slide into it during a game, our tackle simply announces that name and the men automatically go about their business.

The *right end* has an assignment that is entirely dependent upon the position he assumes in the line. His job is to block the defensive tackle away from the hole—his best approach is to allow the man to step across the line, then to force his shoulder into him and keep him moving in the desired direction.

The *right tackle* must block the on-side guard completely out of the hole before the back comes roaring through. A good block by this man is the makings of a successful play.

Our *right guard* has the all-important task of riding the on-side line-backer away from the hole. He crosses over immediately after the tackle moves, and maneuvers himself behind the backer-up. We do not allow him to circle his own tackle, but we want him to cross over exactly where the tackle lined up. He should make extensive use of the head fake because the defensive man has a good opportunity to see him coming.

The *center* sprints through for about five yards before cutting back to employ the element of surprise in blocking the offside line-backer. When the play is past, the center should release his block and go goalward.

Our *left guard* blocks the man on his head away from the hole while the remaining members of the team carry out the same assignments as given against a normal six-man line.

We suggest that coaches pay particular attention to this defense. If they install some plan for coping with

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such variations, they will have a weapon that can be much more potent than anything formulated against a positive defense, without allowing for slight changes. A code word should be agreed upon to cover such a slanting set-up.

Plays "43" and "22" are to the "T" formation what a left jab is to a boxer; that is, the first sturdy stone of a solid foundation. Without these plays, you do not have the "T" in its true form. Some of the things that we have found to contribute a great deal to the success of these plays are given here.

We notice that if our linemen can possibly block high without interfering with their effectiveness, it adds to the deception. The actions of a good quarterback are hard to follow under any conditions, but they are much more confusing if the opponent is trying to analyze them through a 220-pound lineman. We do not ask our key blockers to worry about concealing the backs, but we do like to have our offside linemen come up fast to screen the activities behind the line.

The guards must be exceptionally careful not to step back even one inch or they will interfere with the quarterback's pivot. This must be doubly guarded against when the guard is pulling to do some cross-blocking. This is a common tendency among linemen, but if properly trained, they will overcome it.

The right halfback is the principal man on the play, and it is absolutely essential that he and the quarterback work together without a flaw. He should take the ball on his left side, right at the hip, as he is striding forward with his right foot. The reason that his left leg must be back is to allow the quarterback to lay the ball

in the pocket without the pocket forcing itself upon the ball.

Right halfbacks should practice taking the ball with just their left hand, and when they can do this at full speed, they should start using both hands. This will give them confidence in their ability to receive the ball. We have found that whenever a fumble occurs on this play, it is usually due to the fact that the halfback starts reaching for the ball, or he is coming in too low. He must stand high enough to form a good pocket for the quarterback to find.

When new linemen are assigned to block downfield, they want to get right down there and obliterate the defensive backs. This is an admirable trait, but too often they head downfield while many opponents are still standing near the line of scrimmage. We tell our men never to pass up an opponent unless he is on his back. Such plays as these were not devised to score a touchdown every time they are called; therefore, the blockers must clear the field step by step.

We drill our tackles on the blocking calls by putting them in a room with a blackboard and asking them to turn their backs to the board. We then sketch all types of defenses on the board and call a tackle by name. As soon as he turns, we point to one of the defenses and ask that he call the blocking assignment just as quickly as possible.

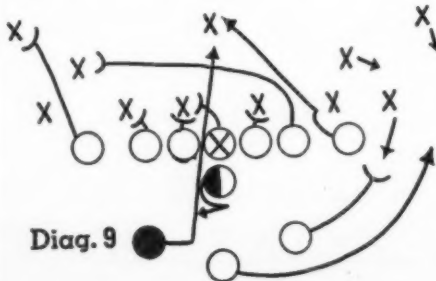
You will notice that many coaches are now using different tackles on offense than they use on defense, and it is our belief that their offensive tackle is the quicker thinker of the two. This should be a daily routine, taking only about ten minutes. Do not let the men tire of such a drill.

Outside Attack from the Straight T

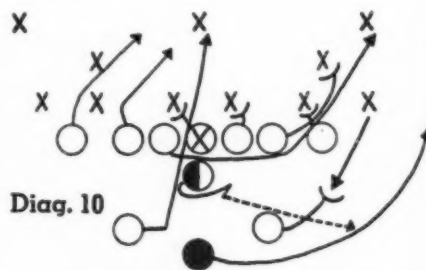
(Continued from page 18)

repeat this down-the-slot thrust several times while setting up the climax thrust to the outside. On these over-guard strikes, the alternating of trap-blocking with the straight blocking shown in the preceding diagram is very effective in increasing the down-the-center threat, and consequently in setting matters up for the delayed toss after a fake-toss and simulated hand-off (Diag. 10).

On this particular variation, the fullback swings a bit deeper than he



Diag. 9



Diag. 10

usually does on similar tosses. As a result, he is actually moving forward and up the field when he takes the lateral. The quarter makes a fast spin, fakes the initial toss, whips back and fakes the hand-off to the left half, then zips the ball to the full.

The foregoing are the major patterns of wide attack from the plain T. All of them have numerous variations in regard to possible arrangements of blocking assignments, modifications of execution, and types of backfield faking.

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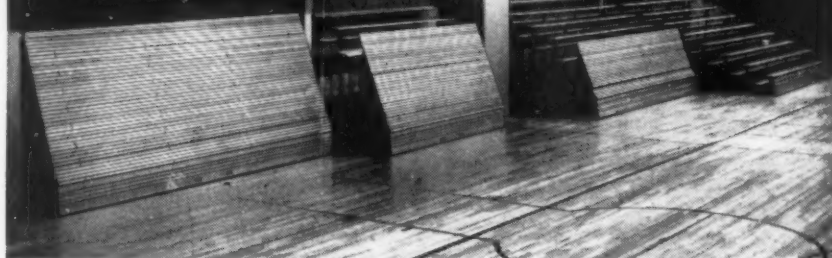
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6	10 Ft. 3 In.	2 Ft. 6 1/2 In.	5 Ft. 3 In.
7	12 Ft. 1 In.	2 Ft. 10 1/2 In.	6 Ft. 0 In.
8	13 Ft. 11 In.	3 Ft. 1 1/2 In.	6 Ft. 9 In.
9	15 Ft. 9 In.	3 Ft. 5 In.	7 Ft. 6 In.
10	17 Ft. 7 In.	3 Ft. 8 3/4 In.	8 Ft. 3 In.
11	19 Ft. 5 In.	3 Ft. 11 3/4 In.	9 Ft. 0 In.
12	21 Ft. 3 In.	4 Ft. 3 1/4 In.	9 Ft. 9 In.
13	23 Ft. 1 In.	4 Ft. 6 1/2 In.	10 Ft. 6 In.
14	24 Ft. 11 In.	4 Ft. 9 7/8 In.	11 Ft. 3 In.
15	26 Ft. 9 In.	5 Ft. 1 1/4 In.	12 Ft. 0 In.
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Practice Devices

(Continued from page 20)

straight-grained planks should be used for the charging surfaces. This pays in the long run, as it eliminates constant repairs. The wheel-support timbers should be cut from lumber free from imperfections. A good grade of pine is recommended.

The wheels may be made of glued segments of hardwood turned to size on a lathe. The center of the wheel might be reinforced with a bushing or a piece of pipe whose diameter is a trifle greater than the diameter of the axle.

The springs may be purchased and should be made of heavy steel spring wire. Many auto-parts stores carry such springs in stock.

The materials for the charging machine include:

Wood

8 pieces 1 1/2 in. x 10 in. x 5 1/2 ft. for charging surfaces.

2 pieces 8 in. x 8 in. x 7 ft. for wheel-support timbers.

2 pieces 2 in. x 8 in. x 7 ft. for intermediate timbers.

1 piece 4 in. x 8 in. x 7 ft. for center timber.

3 pieces 4 in. x 6 in. x 5 1/4 ft. for frame uprights.

4 pieces 2 in. x 8 in. x 8 ft. for charging-surface braces.

2 pieces 2 in. x 11 in. x 14 1/2 ft. for timber spacers.

2 pieces 2 in. x 11 in. x 9 ft. for diagonal braces.

1 piece 2 in. x 6 in. x 16 ft. for spring span supports.

1 piece 2 in. x 8 in. x 16 ft. for upper horizontal spacer.

1 piece 2 in. x 4 in. x 16 ft. for intermediate horizontal spacer.

Metal and Hardware

8 pieces sheet metal 1/4 x 6 x 16 in. for wheel support plates.

4 wheels, 10 in. diameter, 7 1/2 in. thickness.

14 heavy springs, 6 in. span.

4 steel axles, 1/2 x 9 1/2 in., for wheels.

14 squarehead bolts (threaded), 1/2 x 11 in., and nuts for spring span supports.

14 squarehead bolts (threaded), 3/8 x 7 in., and nuts for upper braces.

24 lag screws, 3/8 x 2 1/2 in., for wheel-support plates.

36 or more 1/4 x 2 1/2 in. lag screws for body bracing.

12 squarehead bolts (threaded), 1/4 x 4 1/2 in., and nuts for frame uprights.

6 squarehead bolts (threaded), 1/4 x 7 in., and nuts for frame uprights.

Plan of assembling. Bolt the timber spacers to the two wheel-support timbers. Be sure that the timbers are square to each other at point of overlap. Next, bolt into place with lag screws, the two intermediate timbers together with the center timber.

It is advisable to use washers on all screws. Holes to break grain should also be drilled into the interlocking timbers before inserting the lag screws.

The next step is to attach the wheels on the wheel-support timbers by means of bolting on the iron plates as shown in the end view of the sketch. In the setting up of the three frame uprights, care must be taken that the angle of the forward lean remains the same. The four charging-surface braces should all be cut from one pattern and then clamped to their respective places before bolting. Another accurate check for evenness should be made, followed by bolting together at indicated points.

The spring span support timber and the upper horizontal spacer are next bolted into place, as shown in the end view. Note the angle of the lower edge of the intermediate spacer. This is for the purpose of furnishing more resistance when force is applied against the charging surfaces.

SPACING OF SURFACES

A very important step is the spacing of the charging surfaces, which are held up at the top by means of fourteen $\frac{3}{8}$ x 7 in. squarehead bolts. These bolts should not be drawn too tight. There must be a give at these points in order to allow the charging surfaces to sway slightly inward.

Fourteen $\frac{1}{2}$ x 11 in. squarehead bolts support the lower ends of the charging surfaces. These bolts pass through the center of the springs and on through the spring span support, where they are held in place by washer and nuts.

Padding the charging surfaces is very simple. Layers of felt padding are tied in place and then covered with canvas material, which is held fast by upholstering tacks driven into the edges of the boards.

The last step is to give the machine at least two good coats of paint. This will preserve it against all weather conditions. Axle grease should be applied to the wheels before the machine is used.

As you may note in the blueprint on page 20, the machine is built so that there is some give to the blocking surfaces. This is a much better arrangement than the ordinary rigid type of machine, since it enables the players to hit harder without danger of injury.

The machine should be heavy enough to provide considerable resistance to the charging players. Any school shop can construct such a machine by studying the drawing.



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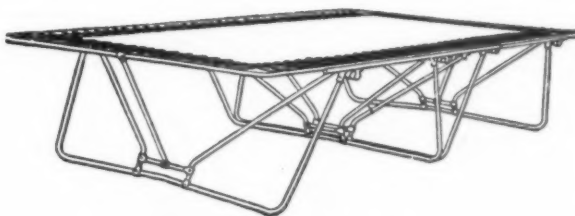
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New Books on the Sport Shelf

- **THE ORGANIZATION AND ADMINISTRATION OF INTRAMURAL SPORTS.** By Louis E. Means. Pp. 442. Illustrated—photographs and tables. St. Louis: The C. V. Mosby Co. \$5.75.

AS professor of physical education and director of the division of physical education and intramural sports at the U. of Nebraska, Louis E. Means has had an unusually excellent opportunity to observe, sift, and practice the elements of modern-day intramurals; and his book clearly evidences the working of a keen, imaginative, progressive, and practical mind.

It is truly a prodigious text, probably one of the two or three best books of its kind ever published. Into its 442 pages, Professor Means has compounded all the ABC's of intramurals.

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In addition, there is a section outlining the field and court diagrams of every sport and another chapter offering a superlative selected bibliography.

The illustrations are excellent, the writing superb, and the organization impeccable. It is a tremendous contribution to the field.

- **THE DICTIONARY OF SPORTS.** Edited and prepared by Parke Cummings. Pp. 572. Illustrated—drawings and charts. New York: A. S. Barnes and Co. \$7.50.

THIS book is a trailblazer—the first comprehensive dictionary of sports terms ever published. Written by one of the nation's better free-lance sports-writers, it is exactly 572 pages long and covers about 80 sports from Angling to Wrestling.

All in all, the text defines about 9,000 terms ranging from "abaft" (nautical. Toward the stern of a boat.) to "Zulu" (angling. An artificial fly. Tag: gold, tail: red; body: peacock herl; hackle: black).

The definitions are clearly and accurately projected, and supplemented here and there with interesting drawings. The book also contains an unusual appendix of terms classified by sport; box scores, tournament procedure, and summaries and charts.

It should prove a comprehensive, completely trustworthy guide for everybody who writes, reads, coaches, or merely talks about sports.

- **BEST SPORTS STORIES—1949.** Edited by Irving T. Marsh and Edward Ehre. Pp. 368. Illustrated. New York: E. P. Dutton & Co. \$3.

THIS collection of super stories and photos makes exciting reading and the editors and judges rate a loud locomotive for a fine job of assemblage.

The Best News Story Award was presented to Jesse Abramson for "Middle Miracle," a thrilling account of the Army-Navy game that ended in a 21-21 tie.

The award for the Best News-Feature Story was given to Maxwell Stiles for his story, "The Ghost of Wembley," relating Bob Mathias' victory in the Olympic decathlon. And for the Best Magazine Feature, the palm went to Jimmy Cannon for his "Club Fighter."

The book also features 38 other stirring sports stories, 30 stunning sports photos, a compact summary entitled "Year's Review," the champions of 1948 in 59 sports, and the 1948 Olympic champions.

- **TEACHING POSTURE AND BODY MECHANICS.** By Ellen Davis Kelly. Pp. 212. Illustrated—photographs and diagrams. New York: A. S. Barnes and Co. \$3.75.

INTENDED for teachers, doctors, and parents, this text describes the standards of body mechanics and the activities through which they may be taught to children of all ages.

The book is organized in three main bodies—the importance of good body mechanics, planning the posture emphasis, and posture and body mechanics activities.

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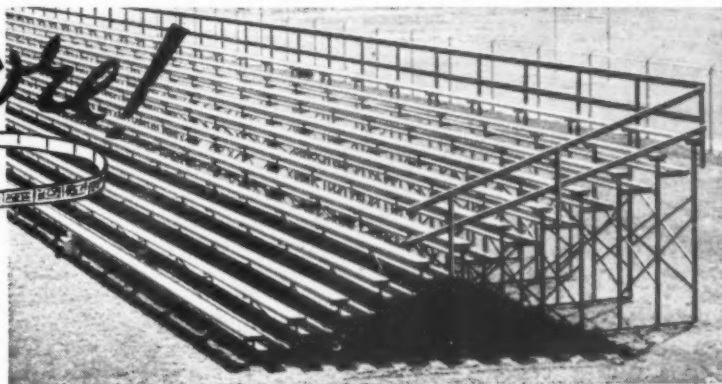
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the personal and professional requirements of the specialist.

The book is nicely organized, fully illustrated, and simply and graphically written.

- **KNOW THE GAME** (The Laws of Association Football). Prepared by The Football Association, London. Pp. 48. Illustrated—drawings and diagrams. New York: Soccer Associates. 75¢.

THIS little handbook, prepared by The Football Association (England), presents the rules of soccer in an exceptionally attractive and digestible fashion.

Organized along three broad lines (facilities and equipment, laws of play, and control of the game), it covers all the basic rules with crystal clarity, and illustrates practically everything with unusually attractive diagrams and drawings in color.

Inasmuch as the stress is on the more frequently misunderstood situations, the book should definitely serve to encourage players and spectators to take a keener and more intelligent interest in the technical side of the game.

Copies may be purchased through Soccer Associates, 10 Overlook Terrace, New York 33, N. Y.

Hoop Hall of Fame

THE National Assn. of (College) Basketball Coaches recently announced that it will sponsor a Hall of Fame project, and that Ed Hickox, retired Springfield College coach, has been instructed to proceed at once with the collection of records, documents, historical material, and relics that might belong in the shrine.

Other members of the Hall of Fame committee include Bill Chandler, Marquette; Everett Dean, Stanford; H. C. Carlson, Pittsburgh; Howard Hobson, Yale; Roy Mundorf, Georgia Tech; Vadal Peterson, Utah; Jack Gray, Texas; George Edwards, Missouri; and John Bunn, Springfield (ex officio).

In 1941, a basketball jubilee campaign to raise funds for a hall of fame ended abruptly when the war broke out. The sponsors of the campaign had intended to have a golden jubilee game played by every basketball team, with the proceeds going to a Naismith memorial and a basketball historical museum.

Since then, the basketball memorial idea has been considered by interested groups who appealed to the National Basketball Coaches Association to assume leadership of the project. The proposal received serious study from a committee of the college basketball coaches who brought their report to the recent Seattle convention.

This investigating committee recommended that the college organization accept the opportunity to revive the project and assume leadership in the matter.

Defensive Stunts

(Continued from page 11)

guard or tackle. The player takes his initial step towards the offensive opponent and places his hands on the man's neck or side. As the opponent drives at him, the defensive player limp-legs the original stepping leg to the rear and quickly steps in with his other foot.

Upon executing the maneuver, the player quickly recovers and plays his territory or the ball.

Submarining. The first movement is to drive well across the line with the chest on the ground and the hands underneath, bringing the rear foot up on the initial drive.

The second movement is to get the feet under the body.

The third movement is to execute a hand stand from the ground.

The fourth step is to follow through.

The player should execute these movements rapidly and smoothly, keeping the head up. If playing two men, he should aim at a spot on the ground between the two as far through as his initial drive will take him. If playing one man, he should drive right through between his legs.

This stunt is used in low-yardage situations or when the opponents are playing high. It can be employed against either a converging or diverging line system to pile up power plays.

Forearm Shiver. Now used as a maneuver to permit the defensive lineman to neutralize the offensive lineman and move with the ball along the line of scrimmage.

The initial charge with the hands is made from below up, hitting the opponent's shoulder with a lifting movement. The rear foot is brought up with the hands, and the defensive player keeps his feet jogging as he maintains contact.

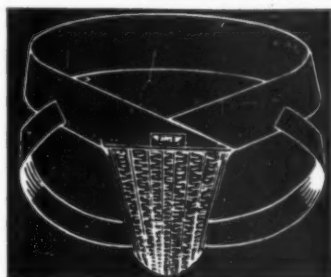
From this position, the defensive player can push his opponent to one side and go through or slide along the line.

Slicing. Only recommended on long-yardage downs or as a gamble, since the player does not have complete control of his body. When playing a gap, the player should make his initial movement with a twist of his body and slice through the two men.

On long yardage, he can play higher. More of a twist can be used than shown in the illustration. This movement leaves the defensive player momentarily out of control of his body.



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Also, ask for information on "Laughing Loos" Water Sports Equipment — diving boards, swimming floats, float ladders, etc.

Noon-Hour Intramural Program

(Continued from page 42)

minutes early so that they may eat before going on duty.

Four groups of games are utilized every year. Groups one and two are used on alternate weeks the first semester, and groups three and four are employed the second semester.

The student helpers direct these games and help get out and take in the equipment. The grade teachers are assigned to noon duty on alternate weeks, but rarely have to help the student leaders.

Since two groups of games are employed on alternate weeks, a teacher always finds the same games being played whenever he comes on duty. He thus becomes thoroughly familiar with the five games for his week while the pupils get to know and play 10 different games. The only time a change is made is at the end of the first semester.

From the list of students volunteering to help with the noon activities, a list is made out for each semester and a copy posted in each homeroom for handy reference.

By "selling" the students on the plan, it is possible to get quite a large number of helpers. We try to use all who volunteer their services. Sometimes we get some inferior helpers, but by assigning them to groups with experienced aides, we usually get satisfactory work out of them.

While the lower grades have been playing, the upper grades and high school have been in the school cafeteria. At 12:15, the grades leave the gym and spend the rest of the time in play either in their homerooms or outside, at the discretion of the teacher.

Grades seven through high school now arrive for their part of the noon schedule.

As with most schools in this part of the country, our school year is divided into three sport seasons—fall, winter, and spring—for the junior and senior high school groups.

In the fall, we organize the usual games of touch football, soccer, speedball, and others for the high school boys. The pupils list their choices on a check list. All are urged to participate and most of them do, but they are free to do as they choose.

After the list has been completed, captains are selected and teams chosen. The teams and schedules are posted well in advance of the playing dates so that there is no ex-

cuse for anyone not knowing exactly when he is scheduled to play.

One of the first morning duties of the director is to make out game sheets and assign officials for the day's activities. Student officials handle all the games and do a very good job indeed.

The leagues, schedules, etc., are posted on a large bulletin board in the physical director's office. Mimeographed score sheets represent excellent time savers.

Most of the high school pupils get a chance to play from three to five times a week, even when elimination tournaments are scheduled. We try to use all of the space all of the time, and schedule many events at the same time.

We have a rule that games must be played on the scheduled date or be forfeited, unless there is a conflict with another activity. In this contingency, we make the necessary changes.

FACULTY ASSIGNMENTS

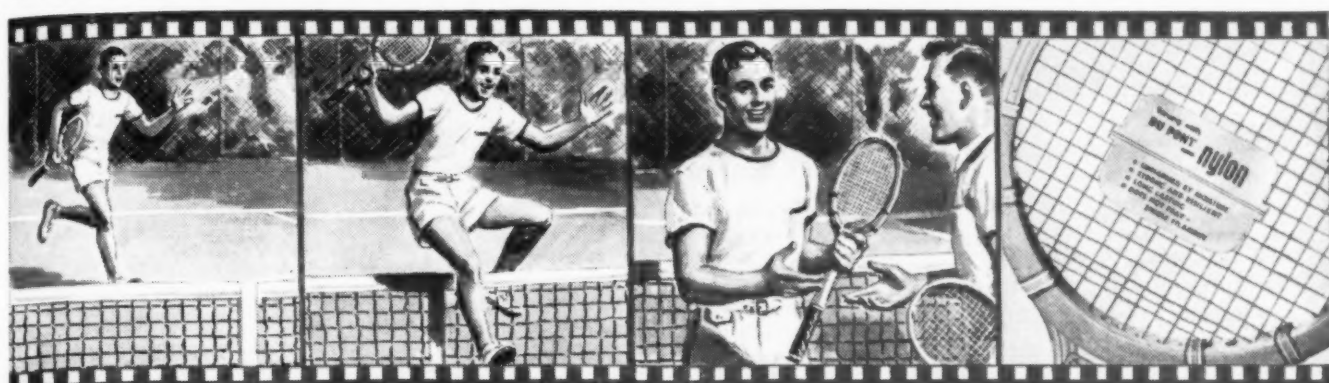
Faculty members are assigned to noon duty on alternate weeks the same as grade teachers. Some are assigned to help out with the physical education activities, and are stationed at key points on the athletic field or in the gym. This leaves the physical director free to go wherever he is needed most. In this way, he is able to give the entire program a quick check from time to time.

At the end of the noon hour, the student helpers see that the equipment is returned to the store-room. Sometimes we have a student handyman work one period a week, checking over equipment and making needed minor repairs. Where the director will look over the equipment from time to time, he can outline the work that requires the most urgent attention.

A few girl helpers also devote a period a week to helping with the checking of playing lists, score sheets, and other numerous clerical details that go with such a program. These girls are usually honor students and are permitted to help as long as they maintain a high scholastic rating.

A noon-hour program, to be successful, must have the enthusiastic support of the student body. Where the program is well-organized and directed, this needed backing will be readily given.

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Coaches' Corner

Please send all contributions to this column to Scholastic Coach, Coaches' Corner Dept., 7 East 12th St., New York 3, N. Y.

DISPASSIONATE observers who saw Charlie Trippi's snaking 75-yard punt return in the 1947 pro playoffs, swear that Trippi covered at least 150 yards on that trip. One of the highlights occurred when Charlie stopped short in front of the Eagle bench to let a would-be tackler fly past and land in an abject heap at Coach Greasy Neale's feet.

Neale, by this time, was feeling no pain. He leaned forward and impaled the frustrated tackler with an icy stare. "Get up you so-and-so," Neale snapped. "He'll be back in a minute."

Jimmy Conzelman, the ex-Cardinal mastermind, shudders to think of the time he sent a halfback into a game only to have the player return to the sideline, crestfallen. "They sent me back," he said. "They said they don't want any substitutes."

"Get back in there!" Conzelman roared. "And tell 'em you're not a substitute. They've been playing with ten men for the last two minutes."

The most masterful piece of strategy Jimmy ever pulled occurred in the same Eagle-Cardinal game mentioned in the first story. Because of a hard slick crust on the field, the Cardinals decided to discard their cleats for more practical sneakers. As they were slipping them on, a locker boy burst through the door with some startling news. The Eagles, he said, were filing their cleats in order to make a sharper impression on the turf.

The president of the Cards leaped to his feet. "They can't do that!" he cried. "It's illegal." He was halfway out the door when Conzelman projected a restraining finger. "No use going to the commissioner," Jimmy murmured. "Let's you and me talk this over."

Scarcely a minute after the game began, a whistle blew and a Cardinal could be seen gesticulating before the referee and pointing to one of the Eagle's shoes. The referee looked, then sent the Eagle to the sideline to change footwear. At the same time, he penalized Philadelphia five yards for illegal equipment.

Philadelphia ran another play. Another Card grabbed the referee and pointed to another Eagle's shoes. The referee paced off another five yards. Greasy Neale required no further

demonstration. The Cardinals, rather than expose the Eagles en masse, were calling the infraction play by play, player by player. The Eagles promptly called time out and repaired to their bench for a mass changing of shoes.

(These three nuggets were panned from Charles Einstein's piece, "Conzelman's Crazyhouse of Cards," in *True Magazine*.)

The bride was rich and beautiful, the groom a former Harvard All-American with an immense pair of feet. As they knelt before the bishop on their white satin pillows, a snicker ran through the congregation. On the soles of the groom's wedding shoes, the ushers had printed in red paint, on the left, "To Hell," and on the right, "With Yale."

As the tight-fisted sportswriter approached the stadium, he noticed a blind man holding out his cup. Several fans in the line dropped in coins. Then the cup was extended to the man with the portable typewriter. He passed right by. "Working press," he grunted.

One of our triple-threat mistake-spotters fell on a little fumble in our March issue, which we feel deserves a correction. On page 34 we stated: "A wet lime should be used in marking the sidelines and yard stripes. A dry line has a caustic effect on the eyes and skin." That word, *lime*, should have read *line*.

Our friends, the H. & R. Mfg. Co., tell us that one of the distinct advantages of a dry marker stems from the fact that it is not necessary to use lime at all. The dry marker will handle talc, gypsum, marble dust, chalk, and many other white powders. These are not caustic. Talc, for instance, is employed in the manufacture of talcum powder and numerous face creams.

You may be interested to know

that the H. & R. dry marker was used at the Olympic Games. The substance used was marble dust.

Having rounded up all the winners of the state high school basketball tournaments (see page 36, May issue), we can now give you the 10 schoolboy teams that topped the nation for 1948-49. This list is based solely on won-lost records in Class AA or A competition.

High School	Won	Lost
Humboldt, Tenn.	44	0
Aliquippa, Pa.	29	0
Paschal, Fort Worth, Tex. .	25	0
El Reno, Okla.	24	0
St. Aloysius, New Orleans. .	22	0
Miami Sr., Fla.	29	1
Fairmont West, W. Va.	24	1
West Orange, N. J.	21	1
Ottumwa, Iowa	18	1
Lewis & Clarke, Spokane. .	18	1

One team that definitely belongs up there is Tucson (Ariz.) Hi. The Arizona hot shots didn't lose a game last season. Unfortunately, however, we don't know exactly how many they won. This, incidentally, marked the second straight season Tucson went through unbeaten.

The only other repeating champions were Manual Hi, of Denver, Colo.; and Miami (Fla.) Sr. Hi.

Perhaps the outstanding basketball record in the country belongs to the Baxley (Ga.) High School girls team. The Baxley gals have put together three state Class B diadems and 109 victories in a row! They haven't tasted defeat since bowing out in the first round of the 1946 state tourney!

Alas for Dave Prager, of Memphis, Tenn. He loved his (two) wives and his (two) basketball teams not wisely but too well. Prager is the guy who embezzled nearly \$30,000 from his company's funds in order to air-com-mute between his two wives (Memphis and Los Angeles) and entertain



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A Broadway bookie passed away and his pals, eager to send him off in style, hired a minister to conduct the services. Two-thirds of the way through, the minister grandiloquently announced: "Brother Jake is not dead, he is sleeping."

From the back of the room, crowded with bookies, touts, and card sharps, came a voice, loud and clear: "I'll lay 8 to 5 on that."

Here's a nice stumper for you baseball fans: How can a team play an official nine-inning game with every player winding up with the identical batting average he had at the start?

Give up? Well, this actually happened on the opening day of the 1940 season when Bob Feller pitched a no-hitter against the Chicago White Sox. Each Sox started the game with an .000 average and wound up with precisely the same percentage.

Our lord high chancellor on all matters pertaining to soccer, Milt Miller, wants us to know that the booting sport has finally "arrived." It now boasts a parlor game on a par with any of the myriad football or baseball table pastimes. Called "Table Soccer" or "Subbuteo," this game was invented by an Englishman and is played with 22 miniature men, a ball, and goals. There is "no dice, no blowing, no cards or board." Victory or defeat rests solely on the skill of the player. For full details, write Soccer Associates, 10 Overlook Terrace, New York 33, N. Y.

Can any of you collectors of track records help Coach George A. Johnson of East Junior High School, Warren, O.? He has a 15-year-old boy in the ninth grade who has hurled the discus 135 feet and the shot, 42 feet; and wants to know whether these are records for junior high competition.

Those national high school track records are sure taking a beating this year. Two months ago, the broad jump mark was cracked; and now it's the discus record. On May 13, Clyde Gardner of Newton, Ia., heaved the platter 179 feet 2¾ inches, bettering the existing record by nearly 3 feet.

If you're looking for some genuine 24-carat bargains in baseball equipment, feast your eyes on the Post's Cereals offer on page 49. Under the super P.C. team plan, you can purchase a raft of official Spalding and Wilson baseball gear at a 50% saving! Every item of equipment is included—bats, balls, gloves, protectors, bases, etc. Complete details may be found in the Post's Cereals "Team Plan" Catalog. For your free copy, fill in the coupon in the advertisement or check the Master Coupon under "Post's Cereals" on page 64.

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Student Sportsmanship

STUDENTS are the most important factors in school sportsmanship. Their habits and reactions quite largely determine its quality. The better schools are those in which there is a consciousness on the part of the students to share equal responsibility with the faculty, alumni, and community for establishing and maintaining good school practices and traditions.

The following suggestions will serve as a guide for the student so that he will know what he should or should not do to carry out his responsibility at athletic contests.

The individual student should:

1. Consider his athletic opponents and officials as guests and should treat them as such.
2. Respect the rights of students from the opposing school.
3. Respect the rights of all spectators.
4. Respect the authority and judgment of the coach.
5. Respect the property of the school and the authority of school officials.
6. Cheer both teams as they come on the field of play.
7. Commend or cheer good plays by either team.
8. Cheer an injured player when he is removed from the game.
9. Support his cheerleaders wholeheartedly.
10. Accept the officials' decisions as final.
11. Show self-control at all times during and after the game.
12. Be modest in victory and gracious in defeat.
13. Consider it his privilege and duty to encourage every one (players and spectators alike) to live up to the spirit of the rules of fair play and sportsmanship.

The individual student should not:

1. Boo or razz officials or players at any time.
2. Applaud errors by opponents or penalties inflicted upon them.
3. Yell while opponent is shooting a free throw.
4. Yell while the opposing cheerleaders are leading cheers.
5. Yell for or demand a substitution or withdrawal by the coach.
6. Use profane language at any time during the game.
7. Be obnoxious to his fellow spectators nor exhibit rowdiness in any form.

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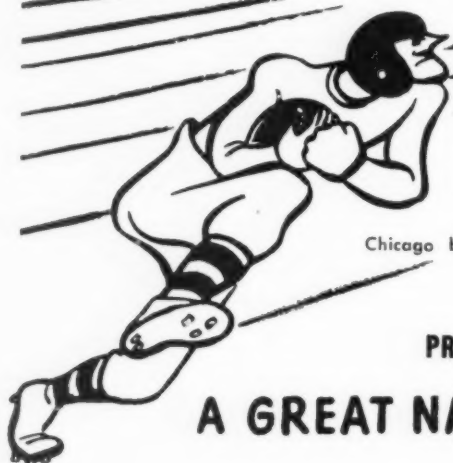
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8. Throw things on the field or playing court.

9. Argue or develop the "sore-head" attitude.

10. Place bets on the outcome of the game.

11. Molest the referees after the game.

12. Criticize his players or coach for losing the game.

13. Boast in victory nor alibi in defeat.

The individual student should abide by the Golden Rule: "Do unto others as you would have others do unto you."

NOTE: This article appeared in the Bulletin of the National Association of Secondary-School Principals, and is distributed to every student at the Aurora (Ill.) West High School.

The Raw Recruit

THE Village Green Reading Society is maybe the most exclusive organization in the Western Hemisphere, being even tougher to crack than the Fruit-of-the-Month Club. It is composed of a small group of admirers of the good, the true and Herman Hickman, who gather once a year to exchange poetical recitations with Friar Tuck (Hickman), the Bard of Johnson City, Tenn., and former champion elocutionist of Johnson City High.

Mr. Hickman's contribution to this year's meeting was a moving rendition of a masterpiece entitled, *The Raw Recruit*, which the Bard delivered from memory as follows:

*Coach, my name is Johnny Johnson,
And I hail from Lund, Wisconsin.
In the buff, I weigh a flat two hundred pounds.
I'm the All-Scholastic center
And a Western baseball mentor
Says my equal as a pitcher can't be found.*

*But such craze I have for knowledge
Which no place but old Blank College,
With its Eastern culture can ever supply,
That just for a little starter
I adopt her, Alma Mater—
For dear old Blank I'd sure be glad to die.*

*But old Dad passed out last summer,
Leaving six of us with Mummer
And a heavy mortgage on the home—
stead, too.
Though I haven't got a dollar,
Still I pine to be a scholar.
In your answer, specify what you can do.*

*P. S.—Make your answer good and speedy,
For, you see, I'm awful needy,
And these Western schools are offering a lot.
Only room and board and carfare
Ain't a-gonna get you nowhere—
Put it there, and I'll be Johnny-on-the-spot.*

—Red Smith in N. Y. Herald Tribune

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We Build Scoreboards to Your Specifications

NADEN & SONS

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CATALOG

THE NADEN N-400

- For any size or type playing field.
- Scoring numbers two feet high, formed by red bull's eyes visible 1,000 feet.
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- Score, time and quarters operated from the timer's table—downs and yards to go operated by a control panel on the line of scrimmage.



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Natural Tan Only

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WESTERN ILLINOIS ST. COLLEGE COACHING CLINIC, July 7

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- Chuck Taylor, Converse
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Free of charge! One day only

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MASTER COUPON

To obtain free literature and sample goods, carefully check items desired and mail coupon directly to Scholastic Coach Advertising Dept., 7 E. 12 Street, New York 3, N. Y.

Numbers in parentheses denote pages on which the advertisements may be found. Please check the items personally, and to be sure of getting the type of service or information you desire, refer back to the advertisement before checking the listing.

AMERICAN CHAIN & CABLE (59)

- ☐ Literature on Stainless Steel Tennis Nets

AMERICAN COACHES SUPPLY (64)

- ☐ Information on Magic Instructor's Slate

AMERICAN WIRE (31)

- ☐ Folder on Locker Baskets and Uniform Hanger

BIKE WEB (41)

- ☐ Catalog
- ☐ Coaches and Trainers Handbook

BROOKS SHOE (4)

- ☐ Catalog on Athletic Footwear

BUTWIN SPORTSWEAR (57)

- ☐ Information on Sports Jackets, Sideline Parkas, Basketball Warm-Up Suits

- ☐ Name of Nearest Dealer

CASTELLO FENCING (50)

- ☐ Catalog
- ☐ Information on How to Form, Equip, Train, and Schedule a Team

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- ☐ Information on Electric Scoreboards

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Rocky Mt. (52)

- ☐ Springfield Coll. (60)

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JOHN B. FLAHERTY (44)

- ☐ Information on Knee and Elbow "Bub" Protectors

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- ☐ Information on Dry Markers

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- ☐ Information on Shrink-Treated Athletic Socks

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- ☐ Famous Sluggers Yearbook
- ☐ Softball Rules
- ☐ Catalog on Grand Slam Golf Clubs

HILLYARD SALES (53)

- ☐ Book, "Job Specifications on Floor Treatment and Maintenance"

HODGMAN RUBBER (47)

- ☐ Catalog on Reducing Shirts, Warmup Jackets, Hooded Capes, Sideline Parkas

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- ☐ Booklet, "Modern School Plans"

- ☐ Details on the "3 in 1 Horn Gym Plan"

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- ☐ Basketball Coaches' Digest

- ☐ Shot Charts Booklet

- ☐ Facts on Seal-O-San

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- ☐ Addresses of Nearest Uniform Makers

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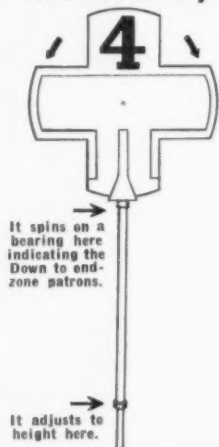
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- ☐ Information on Gym and Playground Apparatus, Portable Bleachers, Electric Scoreboards

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- Made of masonite and aluminum; black numerals on a white field.
- Lightweight, strong, easy to handle.
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PRICE \$37.50

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A 13" by 19" slate is handsome portfolio... your writing disappears with the flick of the wrist... comes plain for all sports or available with a basketball court printed on... the perfect on-the-spot coaching aid.

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(Inside Front Cover)

Full information on

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- ☐ Baseball Batting Cage Nets

MARBA, INC. (22)

- ☐ Information on Athletic Equipment Reconditioning

E. O. MEACHAM (63)

- ☐ Information on Leather Basketball Nets

FRED MEDART (15)

- ☐ Book, "Physical Training. Practical Suggestions for the Instructor"
- ☐ Catalog on Telescopic Gym Seats, Steel Lockers
- ☐ Information, Acromat-Trampolin
- ☐ Catalog on Basketball Backstops, Scoreboards

McLAUGHLIN-MILLARD

(Inside Back Cover)

- ☐ Catalog on Adirondack Baseball Bats

O. F. MOSSBERG (35)

- ☐ Catalog on Target Rifles
- ☐ "The Guidebook to Rifle Marksmanship"

MUTUAL LIFE (16)

- ☐ Booklet, "The Career for Me"

NADEN & SONS (63)

- ☐ Catalog on Electric Scoreboards and Timers

NATIONAL SPORTS (33)

- ☐ Catalogs: Bases, Mats, Rings, Training Bags, Wall Pads, Pad Covers

NISSIN TRAMPOLINE (51)

- ☐ Literature
- ☐ Booklet, "Tips on Trampolining"

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- ☐ Information on Trunks, Swim Fins, Kick Boards, Nose Clips, Caps, Klogs

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- ☐ Catalog on Complete Line of Balls, Gloves, and Striking Bags

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- ☐ Team Plan Catalog of Baseball Equipment

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- ☐ REVERE ELECTRIC (36)

JOHN T. RIDDELL (24)

- ☐ Sports Floodlighting Bulletin
- ☐ Catalog

SCHALL'S DOWN INDICATOR (64)

- ☐ Information

SEAMLESS RUBBER (19)

- ☐ Catalog on Kalite Basketballs, Footballs, Soccer Balls

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- ☐ Catalog and Fabric Samples on Baseball Uniforms, Equipment, Warm-Up Jackets, Award Sweaters
- ☐ Information on Selling Offer

SPALDING & BROS. (1)

- ☐ Catalog
- ☐ Sports Show Book (See Feb. adv. for free rental of "The Double Play Kings of Baseball")

STEWART IRON (39)

- ☐ Information on Fences and Metal Specialties

TAYLOR MFG. CO. (55)

- ☐ Information on Javelin and Discus Spot Markers, Basketball Bags, and Wrestling Mat Covers
- ☐ Information on Canvas Football Field Enclosure

UNITED LABS. (61)

- ☐ Bulletin on Stadium Repair

UNIVERSAL BLEACHER (53)

- ☐ Catalog on Portable Steel Bleachers

WILSON SPORTING (6)

- ☐ Catalog

WYETH, INC. (45)

- ☐ Information on Soprano for Athlete's Foot and Athlete's Itch

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NAME _____ POSITION _____
(Principal, coach, athletic director, physical director)
SCHOOL _____ ENROLLMENT _____
CITY _____ STATE _____

No coupon honored unless position is stated

June, 1949

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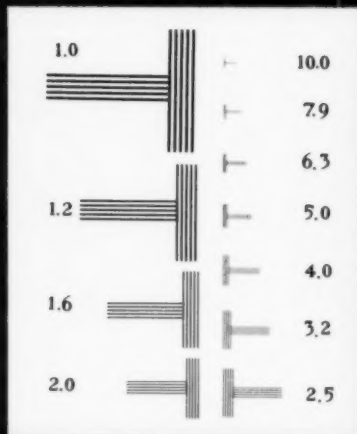
SCHOLASTIC COACH

**VOL. 19, 1949-1950
NOs 1-10**

PUB. 345

**UNIVERSITY MICROFILMS
ANN ARBOR, MICHIGAN. 1950**

RESOLUTION CHART



100 MILLIMETERS

INSTRUCTIONS Resolution is expressed in terms of the lines per millimeter recorded by a particular film under specified conditions. Numerals in chart indicate the number of lines per millimeter in adjacent "T-shaped" groupings.

In microfilming, it is necessary to determine the reduction ratio and multiply the number of lines in the chart by this value to find the number of lines recorded by the film. As an aid in determining the reduction ratio, the line above is 100 millimeters in length. Measuring this line in the film image and dividing the length into 100 gives the reduction ratio. Example: the line is 20 mm. long in the film image, and $100 \div 20 = 5$.

Examine "T-shaped" line groupings in the film with microscope, and note the number adjacent to finest lines recorded sharply and distinctly. Multiply this number by the reduction factor to obtain resolving power in lines per millimeter. Example: 7.9 group of lines is clearly recorded while lines in the 10.0 group are not distinctly separated. Reduction ratio is 5, and $7.9 \times 5 = 39.5$ lines per millimeter recorded satisfactorily. $10.0 \times 5 = 50$ lines per millimeter which are not recorded satisfactorily. Under the particular conditions, maximum resolution is between 39.5 and 50 lines per millimeter.

Resolution, as measured on the film, is a test of the entire photographic system, including lens, exposure, processing, and other factors. These rarely utilize maximum resolution of the film. Vibrations during exposure, lack of critical focus, and exposures yielding very dense negatives are to be avoided.

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